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THE EXPERIMENTAL METHOD: ITS INFLUENCE ON THE TEACHING OF MEDICINE *

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The phase of experimental medicine which I am about to discuss is "Experimental Medicine: its methods, what it has accomplished; the problems before it; and what it may hope to do in the future." I intend to point out, at the risk of being misunderstood, the importance of the experimental method in the everyday work of the student and the teacher of medicine; and how, if conscientiously applied, it may thus exert a powerful influence in the development of the science of clinical medicine.

It is my profound conviction that the greatest fault in our medical teaching is the failure of the majority of teachers to practice, when in actual contact with the students, those scientific methods which they recommend in theory, and which some of them vigorously apply in their own investigations. I would not have entered into this discussion if it were not that our product, our graduate in medicine, has been found wanting by the German finishing school. Prof. Graham Lusk, than whom there is no more fearless champion of scientific idealism, stated in a recent address that a friend was told by a prominent professor of medicine in a German university that the greater number of young Americans who came there to study were "no good." Twenty-five years ago such a statement would not have been surprising, but now, with our much-vaunted laboratory methods and our improved clinical teaching, the statement is, to say the least, discomfiting. The "greater number" of American students going abroad may be from the poorer schools, and if so, which hardly seems probable, the criticism is unjust to our schools of the better type. If, however, it represents the true condition, from the German point of view, then, as Lusk puts it, "our educational system is at fault. It cannot be that American intellect is inferior. The trouble lies in our system."

It is these statements which have crystallized my own misgivings as to the shortcomings of our methods of instruction. These shortcomings may occur in the laboratory work of the first two years or in the clinical work of the third and fourth years, but the teachers in the laboratory years are responsible for the point of view with which the student approaches the material of the clinician, and they should consider it not only a duty but a privilege and an opportunity of the greatest moment to train the student in method and in accuracy of observation.

Is this opportunity grasped by the man who sees his class only as it is seated in the amphitheater, who lectures four or five times a week and never or hardly ever goes into the laboratory where his students are at work? And what shall we say about the man who reads his lectures, the students acting the part of efficient stenographers, fearful of missing a word, because, without emphasis of important points, they must get every word for the necessary and inevitable cram? And then, most ludicrous of all, the man who lectures from his own text-book, his auditors not taking notes but underlining the text of the same book?

Complete, voluminous, detailed lectures may have been necessary in the days of poorly prepared students, but with our present requirements in physics, chemistry, biology and the languages they are unnecessary. The department head who inaugurates his week's work with a general summary of the character of the laboratory exercises of that period, emphasizes the important phases of the subject and suggests the matter to be read, can leave the details which take the time of the second, third, fourth and fifth lectures to the student himself and to amplification in the laboratory. Or, if this does not suffice in his mind to present the subject-matter properly, a second hour with the lantern is worth half a dozen formal lectures. At the end of the week, after the laboratory work is completed, a third hour, for a conference recitation, which he conducts personally, should clear up all doubtful points. In this recitation the men should not be marked; it should be an informal affair, with the sole object of determining the efficiency of the week's instruction and of the progress in the power of observation and deduction.

Complete presentation of a subject in a lecture, even though the facts be retained, stifles curiosity and inquiry, turns the interest of the student backward instead of forward, and retards the development of that scientific method of thought so satisfying as a part of one's mental equipment. Complete and voluminous lectures which discourage collateral reading and minimize individual laboratory work, force the student to consider the final examination to be the ultimate object of the course. In some schools the student is encouraged in this point of view by the establishment, often with the consent and approval of the head of the department, of extramural quizzes, which, given by assistants of the department, increase the income of the latter at the expense of the student's mental development.

Another fault of the lecture system is the not infrequent arrangement which allows the head of the department to consider lecturing his only duty and permits him to turn over the laboratory work to assistants. If

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* Owing to the lack of space this paper has been reduced nearly half. The unabridged article is printed in pamphlet form and will be sent by the author, or by THE JOURNAL, on receipt of a stamped directed envelope.

the laboratory instruction is to be not merely a matter of perfunctory routine, but is to be used for training in the experimental method with the object of developing power in method and in observation, it becomes one of the most difficult forms of teaching, and no matter how adequately trained the assistants may be, the daily presence of the head of the department, if he have the proper point of view, is essential to the success of the laboratory instruction.

Let us now turn to the instruction in the laboratory itself, where we should certainly expect to find experimental methods conscientiously practiced. We have every reason to be proud of the equipment and facilities of most of the laboratories in our better medical schools.

The guiding principle of laboratory instruction should be the practice of the "do it yourself" idea. Lectures, amphitheater demonstrations and recitations should, if time cannot otherwise be obtained, give way to actual individual work in the laboratory. Furthermore, the department head, without sacrificing the presentation of his subject as a training in method, should prominently place before the student its relation to other courses in the medical curriculum, and especially to the clinical work which is to follow.

Nearly all our laboratory courses offer opportunity for criticism from these two points of view. Anatomy, aside from the fault of overlecturing, is perhaps least at fault, for abundant material for dissection makes this course, if the material is properly utilized, an ideal one for the practice of the "do it yourself" method. The related subjects, histology and embryology, may, however, be criticized in that they are seldom taught in relation to one another or to gross anatomy, and practically never with a regard to the work in physiology and pathology which follows. Of the few exceptions, Huber's course at Michigan best illustrates how these subjects should be presented. Embryology forms the basis of the work in histology; the student studies cell division and the development of the germ layers, and as the tissues and organs are differentiated the histology of each is studied in adult tissues. Thus the structure of each adult tissue and organ is brought into relation on the one hand with its origin and its order of development, and on the other, by judicious correlative teaching, with important basic principles of pathology; as, for example, the general laws concerning the origin of tumors, or the similarity of the repair or regeneration of an adult tissue to the embryonic development of the same tissue, or the developmental explanation of the anatomy of hernia. These and other important fundamental principles can be taught better by the embryologist than by the pathologist.

Another neglected field is that on the border-line between histology and gross anatomy, which for the want of a better name may be called "semi-gross" anatomy. The well-trained student can from memory give a fairly accurate description of the relations and gross external appearance of an organ and also of its histologic structure, but he is at sea when asked to point out on the freshly cut surface of an organ its normal markings. The appearance of the Malpighian bodies of the spleen, of the glomeruli of the kidney, the differentiation of arteries or veins from the bronchi in the lung or from the bile-ducts in the liver are matters of which he knows nothing. His theoretical knowledge fails when put to the practical test.

It is, however, of the work in physiology, pathology, bacteriology and pharmacology that I wish especially to speak. The first and second of these sciences are concerned essentially with normal and abnormal functions, the third with one phase of the etiology of altered function and the fourth with the treatment of abnormal function. They therefore lend themselves to teaching from the dynamic rather than from the static or descriptive point of view, and are peculiarly adapted to the procedures of the experimental method. These are subjects which offer the possibility of bringing the student closer to an understanding of the manifestations of disease, and the factors which cause and influence these manifestations, than any other group of subjects in the medical curriculum. Physiology and pathology should be so taught as to force the student and physician to think physiologically and not morphologically, as is usually the case. The close adherence of both of these sciences to the descriptive method may be explained historically in the case of physiology by the development of physiology by anatomists, physicists and chemists rather than by biologists in the broad sense. The influence of the descriptive anatomist is seen in the early association of histology with physiology; of the physicist in the early electrophysiology, and of the chemist in the early analytical trend of physiologic chemistry. Likewise, pathology, adopting the methods of anatomy, became a purely descriptive science, seeking the seat of disease and concerned with the appearance of diseased tissues.

In investigation, the descriptive point of view is now subordinate, but in teaching it still persists. The student in physiology, in many schools with well-equipped laboratories, never works with an animal higher than the frog. Such a course in electro-physiology, essentially a course in physics, with a few exercises devoted to the use of mechanical models and perhaps a few amphitheater demonstrations, is considered sufficient training for the work which soon follows, in the instruction, for example, in physical diagnosis. The student enters on the latter work, which many consider the most difficult part of their course, with no first-hand knowledge of the important phenomena of circulation and respiration, which might readily have been presented by the use of mammals. One of the most useful instruments of the physician, the stethoscope, of great value also in the teaching of physiology, is seldom utilized. In many courses the physiology of respiration and circulation is completed without the student having heard the respiratory murmur or the heart sounds. The physiology of the kidney, the pancreas and the ductless glands is taught by lecture only, or by an occasional amphitheater demonstration.

Bacteriology, one of the most modern of the medical sciences, suffers likewise from the descriptive method. It is, in the majority of schools, a course in the descriptive botany of the fungi. It is true that the student actually handles the bacteria, studies their morphology and observes their behavior in artificial media, but their behavior in the animal body is left to lectures. The all-important lessons of bacteriology—the problems of infection and immunity—the student has no opportunity to study at first hand. What a live subject bacteriology may be for the student is seen in those few courses in which he reproduces in animals the lesions caused by the micro-organisms which he studies, and carries out those experiments which illustrate the fundamental principles of immunity. He can have no better training in the experimental method than that which comes from following half a dozen different bacteria from pure culture through the lesions which each produces in an animal and back again to pure culture. Likewise, the experimental study of active and passive immunity, even if the

latter be only the simple testing of the protective power of diphtheria antitoxin, is invaluable. If to these are added the practical study of hemolysins, agglutinins, precipitins and of the phenomena of hypersusceptibility, bacteriology as applied to medicine is actually taught. From the practical point of view, the training offered by animal inoculations is of the greatest importance for the proper appreciation of the principles of asepsis in surgery, while the work in immunity aids the student to grasp intelligently the pathology and therapy of the transmissible diseases.

It is a matter of great doubt if in the better schools to which students come with a general training in biology it is necessary to give as much time to the purely morphologic study which consumes so much time in the average course in bacteriology. Certainly this phase of the subject, with the abundance of excellent text-books which we possess, does not demand the number of lectures usually devoted to it. The present methods do not give the student an adequate general conception of the rôle bacteria play in disease, and of specific effects they have no knowledge which they can readily apply to their work in pathology.

And what is to be said of pathology? I consider pathology, as it is usually taught, the most forlorn course in the medical curriculum. Lectures in great abundance, illustrated by museum specimens enclosed in fluid and glass and sections of diseased tissues sandwiched between glass is the story in nine out of ten cases. Even when fresh material is supplied in satisfactory amount, a gap still remains—that great gap representing altered physiology. I do not wish to decry any means by which a knowledge of pathology may be presented to the student, but an adequate collection of specimens representing the gross and microscopic appearance of diseased tissues should, I believe, be considered as only the essential minimum of equipment. Neither do I wish to minimize the importance of morphologic study, for it is the cornerstone of that modern pathology on which sound diagnosis and rational therapy rest; but the teachers of men who are to spend their lives in the study of the manifestations of altered physiology should not magnify the morphologic aspect of pathology at the expense of the dynamic. This phase of my subject in so far as it refers to investigation has been very ably discussed from the point of view of the chemist by Prof. A. E. Taylor; and the possibilities of physiologic methods in teaching pathology to small groups of students have been clearly demonstrated by Prof. W. G. MacCallum. So ably have they presented their claims that I can add but little that is original. My personal experience may, however, be of some value as an illustration of the evolution of a point of view. Trained as a morphologist of the most uncompromising type, I became interested, after several years, in the methods of an experimental pathologist and gradually awakened to the importance of the investigation of altered function. A desire for a greater knowledge of the methods of physiology and chemistry followed. At first this new knowledge was utilized only in investigation but a troubled conscience soon led to its use in the teaching of pathology. At first, experimental demonstrations before the entire class were introduced here and there in my courses, but in such a fragmentary way that they were of no more value to the student than the usual set demonstration of the chemist. This year, for the first time, I found myself with sufficient space, equipment, time and assistants to inaugurate a systematic course in experimental pathology and pathologic physiology in such a manner that each student would get something out of it. Without going into the details I may say that by giving two hours a week to the course and dividing the class in two sections, each student of a class of ninety men had fourteen exercises of an hour each, and by presenting in each hour five different demonstrations simultaneously, no one demonstration group numbered more than nine men. That is, about seventy experimental procedures, phenomena or lesions, were shown each man, for each of which he had twelve minutes and was only one of a group of nine.

These demonstrations included the presentation of necrosis and the degenerations, inflammation and repair, blood-destruction and jaundice, thrombosis, embolism and infarction, certain lesions of the heart, lung, stomach and intestines, liver, pancreas and kidney, the problems of infection and immunity, of shock and hemorrhage, and the physiology of the ductless glands. Physiologic methods of graphic registration were used whenever possible, changes in the urine and other secretions demonstrated, and the methods of clinical diagnosis emphasized. A few details of some of the exercises may illustrate the advantages of this course. The pathology of blood-destruction and jaundice, the circulatory changes in heart disease, and the pathology of the pancreas are subjects always difficult for the student to grasp; and, moreover almost impossible of demonstration by morphologic methods. The exercises on these subjects may therefore serve as examples. Blood-destruction and jaundice were illustrated by five demonstrations: (1) the production of hemoglobinemia and hemoglobinuria by the administration of crotalus venom, and (2), the injection of hemolytic immune serum. The associated changes in the spleen and other organs were demonstrated, as was also the laking of the blood in centrifuged serum. The naked eye appearance of the urine was contrasted with that of (3) hematuria due to cantharidin, as were also the albumin content and sediment of the two types of urine, and the use of the spectroscope was demonstrated. By test-tube experiments the phenomena of (4) hemolysis and hemagglutination were explained, and thus the theory graphically brought into relation with the changes in the animal body; (5) obstructive jaundice due to ligation of the common bile-duct was shown, the urine of this animal contrasted with that of the hemoglobinuric animals as to the presence of bile and albumin, and by comparing these animals the clinical signs of obstructive and hemolytic jaundice were clearly shown by examination of the skin and conjunctiva.

In the exercise on cardiovascular disturbances the changes in heart action, blood-pressure, pulse-rate and volume, and in respiration as a result of experimental (1) aortic insufficiency, (2) mitral stenosis, (3) hydropericardium, (4) injury to myocardium and (5) edema of the lungs, were graphically demonstrated by the use of a kymograph.

Acute diseases of the pancreas were illustrated by (1) experimental acute hemorrhagic and (2) gangrenous pancreatitis due to the injection of bile, with (3) the correlated fat necrosis. The relation of the pancreas to diabetes and the theory of internal secretion were demonstrated by contrasting the results of (4) extirpation of the pancreas with (5) ligation of the pancreatic ducts. The fermentation and Fehling's tests applied to the urine of all these animals offered a vivid picture of the relative influence of different types of injury of the pancreas.

These three exercises are examples of the opportunities offered by this method of teaching. The advantages of

its application to the problems of nephritis, the disturbances of the ductless glands and the principles of infection and immunity are evident. No other part of my teaching experience has ever given me so much satisfaction with the attitude of the student, and in no other course have I felt so certain that I was giving him what he wanted and needed. Such a course is, after all, as near an approach to clinical methods as one can attempt in the laboratory. The physician studies the altered functions of his patient by direct observation and by all the methods which biology, physics and chemistry have brought to bear on diagnosis; he summarizes the results, correlates them, ponders over them and arrives at a conclusion which is based largely on the fundamental experience of pathologic anatomy. His work really represents the first, the oldest, and the most important application of pathologic physiology.

Another phase of the teaching of pathology which may be criticized is the presentation of pathologic anatomy. Diseased organs are studied from the point of view of changes in morphology, color and consistence, without attempt to associate physiologic disturbances. In many schools no systematic work in gross pathology is offered after the second year, and even in the second year it is usually a museum course with no systematic drill in fresh appearances. Some schools have improved the situation by obligatory autopsy work and clinicopathologic conferences in the third and fourth years. Also the museum material has had some life instilled into it by adopting the "case" system of presenting organs illustrating the associated lesions of any one disease with, at the same time, the clinical history and microscopic preparations. But all these improvements leave the work a demonstration course. The student can obtain an adequate knowledge of morbid anatomy only by following the example of the young pathologist; that is, by studying at first hand the naked-eye appearance of fresh organs, arriving at some conclusion, and immediately verifying it, or otherwise, by the use of the freezing microtome. This is the true experimental method—observation, hypothesis, experiment, deduction. It is perhaps, best combined with the work of the third and fourth year of medicine after the student has had a year of fundamental pathology, though if time allows it can also be used in the second year. During the past four months I have used it with my third-year class and have had the most gratifying results. Placed in a room with the fresh material before them, with scales, measures, the necessary dissecting instruments, a bacteriologic outfit, stains and reagents for microchemical reactions, an abundance of text-books on all branches of medicine, and a laboratory attendant at the freezing microtome, the men have worked out their own diagnoses at first hand. No demonstrations were given and no aid, except in guiding methods of procedure and by occasional pertinent questions. At the end, diagnoses were checked, and each student's general knowledge of the lesions he had studied was determined by a few leading questions as to etiology, associated conditions, complications, sequelæ, and important clinical symptoms. The eager attitude of the class toward this course has been sufficient evidence of its value.

We have not the wealth of fresh autopsy material offered by the pathologic institutes of Germany, but that which we have is too frequently used for perfunctory demonstration or for second-hand study as beautifully mounted and labeled museum preparations and not sufficiently utilized for first-hand observation and manipulation by the student. The use of fresh material and the freezing microtome go far to wean the student from his "reverence for authority" and his faith in the lecture and to force him to observe and think for himself.

Physiologic chemistry and experimental pharmacology, as given in our best schools, are, I believe, the most satisfactory of our laboratory courses. Presented, in most instances, in a vigorously scientific manner, with the student carrying on exact quantitative estimations and using graphic methods of registering results, and himself frequently the object of experiment, these courses fulfil all the rules of the experimental method and force on the student, as no other course does, the practical importance of this method. To one who was taught by the methods of the old "medical chemistry," it is most stimulating to see an entire class in modern physiologic chemistry study the influence of a protein, a fat or a green diet, of a nuclein diet on purin output, of a heavy protein diet on urea output, and of starvation on total nitrogen and acetone elimination. In these, as well as in other procedures, as individual calorimetry with the respiration apparatus, the student is the investigator as well as the experimental animal. Such experiments are now extensively carried out in a few courses, and when supplemented by the study of phloridzin glycosuria, pancreatic diabetes and other experimental conditions in animals, give a knowledge of the fundamental principles of metabolism and of practical physiologic chemistry which was not dreamed of by the student of ten years ago. Such courses lead one to believe that the rapidly approaching closer union of hospital and school will lead to the next step, the opportunity for small classes to study the metabolism of patients in the hospital ward.

The modern course in experimental pharmacology, unfortunately at present not given in all our better schools, is I believe, the most valuable part of the first two years of laboratory work. Coming as it usually does in the latter part of the second year, when the student is completing or has completed his physiology and pathology, it offers him the last opportunity, before he approaches the clinic, to review normal functions and to study the manner in which various agents may alter them. And in those courses which are not merely exercises in testing the action of drugs, but in which abnormal conditions are produced and measures for their treatment or care are applied, pathology as well as physiology is reviewed and the fundamental principles of therapeutics thoroughly impressed on the student's mind. Not only medicine, but surgery, benefits by such a course, for the study of the influence of anesthetics and of the production and treatment of shock, collapse and hemorrhage carries the student well into the realms of clinical surgery. I refer, naturally, not to demonstration courses, but to those in which the procedures are actually carried out by the class.

In presenting this criticism I am not unmindful of the recent great advance in the utilization of laboratory teaching, and I realize fully that suitable equipment for teaching must precede the elaboration of methods of teaching. This equipment we now have in all good schools and I feel very strongly that the time has arrived for the heads of the laboratory departments to justify its great expense by so conducting their courses as to satisfy, on the one hand, the students receiving the instruction, and on the other, the trustees or others providing the equipment. But, above all, they must themselves be satisfied that their courses, collectively, leave no gaps which might, with a little thought and

a little cooperation, be filled. Some of these gaps, as, for example, those I have mentioned in connection with bacteriology and pathology, could be filled by new departments of immunology and pathologic physiology, but the already overburdened medical curriculum cannot yield more time. Correlation between various departments and a rearrangement of old courses on a modern basis, with the object of training for power rather than knowledge, must be one of the remedies. The present evil is the result of a lack of general supervision. One remedy, therefore, is open criticism backed with authority, and that authority should reside in a committee of the governing body of the university. This is the most direct way to bring about a proper correlation but not, perhaps, the best way.

Another method is by voluntary cooperation on the part of the heads of the laboratory departments. Our medical sciences are not, for the most part, so widely separated that members of one department are totally ignorant of methods of another. Their interrelation is best illustrated by the development of embryology in the departments of anatomy, physiology and zoology simultaneously; by the influence of pathology on physiology and on the development of certain phases of normal histology; by the position which bacteriology and protozoology occupy in the departments of pathology and hygiene; by the development of a new science, modern pharmacology, based on the application of the methods of chemistry and physiology to empirical therapeutics; and by immunology, as its followers now term it, which demands the methods of practically all the medical sciences.

Despite this history of development and mutual relation there is a tendency, not only in teaching, but in investigation, to separate sharply each of these into an independent science of medicine to the great detriment of that which should be the scientific aim of all, the development of the science of clinical medicine. Even though this last science is to reach its perfection only through the efforts of men actually engaged in clinical research, as is the opinion of Dr. S. J. Meltzer, such men must receive every advantage of training in the fundamental medical sciences, and not only this, but from the teachers of such branches they must receive so much of the scientific spirit that they will carry some of it with them into their clinical work. I do not mean by this that clinical surgery and medicine have not men of scientific methods and investigators of prominence; I mean rather that they would have more if the teachers of the first two years so correlated their work as to force on the student the practical use of their methods in the investigation of clinical problems, or, what is simpler still, demonstrated the relation which the methods of one course bear to those of another course in the explanation of the phenomena of abnormal function. This latter is particularly the opportunity of the courses in physiology, pathology and pharmacology. The benefit of such cooperation cannot be denied and illustrates a second of the possible remedies for the present isolation of our laboratory courses.

Another important phase of this subject is that of the relation of investigation to teaching. If one examines courses in the same subject in a number of schools, it is found that those which are best presented from the point of view of the experimental method are under the control of men actively engaged in research work. Such men are alive to the advantages of new methods in their own subject and of new ways of applying old methods. On the other hand, one finds that the perfunctory routine laboratory courses, with a profusion of lectures, are by the men who never or only occasionally contribute to the literature of their science.

I have often thought that our departments of biologic chemistry and experimental pharmacology forcibly illustrate the importance of the investigator as a teacher. With few exceptions, they are manned by active investigators and from the point of view of medical pedagogy are most satisfactory. They represent, as now organized, the most recently developed of the medical sciences, and have emerged directly from the fields of most active investigation in physiology and chemistry. They have no vast theoretical literature back of them, no traditions as to methods of teaching, but they have established their own methods on the basis of observation and experiment. "Medical chemistry" and "therapeutics" were once taught by "good teachers," but the investigator in physiology and chemistry has transformed them into sciences of university rank to which the former narrow terminology no longer applies.

These three factors—authoritative control to arrange correlation, cooperation by department heads, and the appointment of teachers who are also investigators—are fundamental in the application of the methods of experimental medicine to proper teaching. Two other factors, however, are concerned. These are closely related. One is the question of electives and the other the question of actual research by the student. The first, necessary for any proper attempt at correlation, is obligatory if the student is to work independently, even in a small way, as an investigator. As the advisability of giving the student the latter opportunity is still a disputed point, however, it may be discussed first. As every teacher knows, each class contains a considerable number of men who desire to pursue, to a greater extent than the conventional course allows, work on certain subjects or by special methods, or less frequently, perhaps, they desire, and are usually well qualified to undertake, minor investigative work. To the former, as well as to the latter, any effort spent in work beyond that given the entire class becomes, necessarily for them, the acquirement of the methods of research, and as this means a knowledge of the exact, painstaking methods by which the realms of the unknown are explored, it is an exercise which prepares the student for the daily routine research work of the physician who truly practices his profession. As a training for future work, its value is definitely known and the increased zest and enthusiasm exhibited towards their medical work by men who have had this opportunity are always evident. Pedagogically, therefore, it would seem advisable that every student should have the opportunity for minor research, in order that he may become acquainted at first hand with the careful methods of experimental medicine. The bearing of the tangible results of his work on the subject investigated is a matter of little or no importance; the vital thing is the increased power which he himself acquires. If the student is to have such opportunity the elective system is necessary.

So much for the use of the experimental method in the two laboratory years. This method, if it has any special significance, should bear fruit in the third and fourth years, the periods devoted to clinical teaching. Are our clinical departments so organized that they are prepared to aid the student in his development along scientific lines? A few are, but for the most part the clinician returns the student to the methods of the lecture-room and the demonstration and gives him little opportunity to develop his powers of personal observa-

tion. The discussion of this phase of teaching may be limited to the department of medicine, as contrasted with surgery and the specialties, though what is said of medicine applies equally to other clinical branches. The department of medicine should be the great glory of the medical school, and the method of instruction in all preceding courses should be considered as contributing to the proper study and appreciation of the material and problems of clinical medicine. Pedagogically considered, the methods of study in the earlier years should give the student the proper point of view for approaching any diseased condition, and practically, they should train him as far as may be possible in the actual methods of precision used in the clinic. The methods of the diagnostician are those used in procuring all scientific data; that is, accurate observation and experiment with logical deduction. His observations are of two kinds, direct, by the exercise of his unaided senses, and indirect, by the use of instruments of precision and various laboratory procedures. These demand methods which from the pedagogic point of view are in no way different from the methods used by the student in his laboratory years.

The data obtained, either directly or indirectly, when correlated according to the rules of the experimental method, lead to a conclusion (diagnosis) as scientific as the conclusions of the investigator in the laboratory of physiology or pharmacology. If it should eventuate that the conclusion is erroneous, it is not the fault of the experimental method but of inadequate methods, insufficient data or improper deduction. Clinicians of long practice will not always admit that the data on which they base a diagnosis are always obtained by the careful, painstaking methods of scientific observation. They imply that experience gives an added sense, forgetting that it is the continuous training in accurate observation and deduction which gives them the power to make and correlate their observations rapidly and to reach their conclusion by a "short cut" not possible to the beginner. That knowledge of medicine which is of lasting value the student can get only from direct study of the patient. By direct study, I do not mean the study of the patient by a class, no matter how small, but the study of one patient by one student, under a supervision which tells him, to some extent, what to do and how to do it, but not what he is to find; in other words, a continuance of instruction in methods, leaving the matter of deduction in large part to the student himself.

The conduct of such a course brings up several of the problems now attracting the attention of all who are interested in medical education. It cannot, it is evident, be successfully given in a hospital not an integral part of the university. This is the experience of all schools which have attempted it in hospitals with which they are affiliated but in which they have no authority. Questions of authority over patients, of equipment for teaching, of laboratory space for clinical study, all indicate that the first essential is the possession or control by the school of its own hospital. This allows an easy solution of all problems: Continuous service and freedom in the appointment of clinical teachers come as a matter of course. Teaching and investigation can be carried on without interruption. The student becomes a part of the hospital routine and is not an onlooker with limited privileges. The laboratory departments of the first and second years unite to aid the work of the clinicians in the hospital. Clinical teachers may be promoted, if deserving, or may be called from any part of the country, or from abroad; the choice no longer depends on local hospital appointments or on the selfish interests and friendships of local consultants, but on fitness, eminence and skill.

Whatever has been said about the instruction in internal medicine applies with equal force to surgery, pediatrics and obstetrics. These four subjects constitute the backbone of medical knowledge, and the last three deserve a word of comment. Pediatrics, frequently served by special hospitals, is amenable to the same individual teaching as internal medicine, and because of its peculiar importance should have a more prominent place in the medical curriculum than is usually assigned it. Obstetrics presents special difficulties because of the infrequence of maternity wards and also on account of the wide scattering of the out-patient service, but these difficulties are not insurmountable.

Surgery, from the point of view of diagnosis and the care and treatment of the minor common lesions and injuries, may be taught by the same methods as those outlined for internal medicine, and, most important of all, the frequent lectures and large operative clinics from which the students gain little or nothing, should be replaced by courses in experimental and veterinary surgery, offering an opportunity for detailed training in the administration of anesthetics, in asepsis and antisepsis, in the preparation before and the care after operation, and above all for the study of repair of wounds and their treatment.

Much of surgery and of the various specialties should be given as elective courses, in the manner adopted by this school, or as postgraduate work. No physician needs to know, or can know, all the specialties in detail, and only a relatively small number become operating surgeons. Those that do specialize, do so only after a thorough postgraduate training. The great bulk of men who practice medicine should have as thorough a training in internal medicine and closely allied branches, such as pediatrics and neurology, as it is possible to give. With this, in the obligatory course should go a general knowledge of the principles of surgical diagnosis and a certain minimum knowledge of the specialties.

One or two other matters of importance in the teaching of clinical medicine may be briefly mentioned here. One of these is the advisability of offering small groups of students the opportunity of studying, as an elective, the diseases of one organ, or of related organs, from every point of view. I have been much interested in such a course given last year by Dr. W. T. Longcope at the University of Pennsylvania and known as a course in "medical correlation." During one year a group of six students studied the diseases of the heart from the clinical, the pathologic, the experimental and the therapeutic point of view. All the methods of clinical observation were brought to bear on the cases in the wards of the hospital; gross and microscopic preparations illustrating the pathology were examined; the normal physiology of the heart was studied in animals by the methods of physical diagnosis and of graphic registration, and finally these were used also in the observation of lesions produced experimentally. The relation of various diseases of the heart to diseases of the lungs, liver, kidney and other organs and tissues was thoroughly covered and the effect of treatment on patients in the wards and experimentally produced lesions in animals observed.

Another matter concerns departments in the medical school known as research departments and variously described as departments of experimental pathology, experimental medicine, or research medicine. The title

matters little, but the plan of the department should be broad enough to care for the problems of clinical medicine, and for this reason the word "medicine" should appear in the title rather than the word "pathology." Such a department should keep in close touch with the department of clinical medicine, and should supplement the facilities of the various hospital laboratories, but, nevertheless, should also work in cooperation with the fundamental laboratory sciences in order to insure a realization of the greatest good to the school. The head of the department should be a man familiar with the problems of clinical medicine trained preferably as a pathologist, and with sufficient knowledge of the possibilities of physiology and chemistry to apply the methods of these subjects to clinical problems. I say preferably a pathologist because the pathologist is more apt to combine clinical training with a knowledge of pathology, bacteriology and the principles of immunity than is the physiologist, chemist or pharmacologist, though any one of the latter might well head such a department.

The work of this department should be the investigation of clinical problems, and not of academic problems of pathology, chemistry, physiology, etc. The latter can still be carried on in the departmental laboratories which have always followed academic lines, and, in truth, are forcing, through their neglect of clinical problems, the establishment of the type of department described. General practitioners, clinical assistants in the school, and even those at the head of clinical departments are constantly meeting problems which demand solution but find no adequate opportunity to investigate them in departments as now constituted.

Another function of this department should be undergraduate instruction to fourth-year men taking research work in clinical medicine as an elective, and also postgraduate instruction for those desiring training in the methods of experimental medicine as the basis for a career as teacher or investigator.

The practice of medicine has developed out of empiricism by the application of the methods of its tributary sciences and whatever is definitely known and understood in medicine can be traced to the application of the experimental method.

In recommending to you that, as practitioners, you keep always the point of view of the investigator, I realize fully that as you go out among so-called "practical" doctors you will find many who sneer at what they term the "scientific" doctor. This view, of which we hear less and less each year, is a survival of the opinion commonly held prior to the development of the sciences of bacteriology and physiologic chemistry, which sciences, by their practical applications to every-day medicine, have perhaps done more to dispel it than is usually realized.

I have read recently an address by President MacLaurin in which he discusses some of the factors which in the course of fifty years have placed the Massachusetts Institute of Technology in its present commanding position. Two of these factors are worthy of the earnest consideration of the trustees and teachers of our medical schools. The first President MacLaurin presents as follows: "There has never been any uncertainty or indefiniteness as to what the institute is aiming at in its scheme of education;" the second, embodies the idea that the success of the educational policy of the institute has been due to the fact that the emphasis has been laid on the *"method"* and *spirit* of science rather than on *subject,* and that the *"learning by doing"* or *"do it yourself"* idea has been systematically applied. We need, in medicine, a greater appreciation of both these factors by our trustees as well as by our teachers; of educational policy by the former, of educational method by the latter.

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THE RELATION OF THE INTOXICATING DOSE OF HORSE-SERUM TO THE PROTECTIVE DOSE OF ATROPIN IN ANAPHYLAXIS IN THE GUINEA-PIG *

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Within the past two years Auer and Lewis[1] and Auer[2] have shown that atropin sulphate has a distinct protective action against the asphyxia of immediate or acute anaphylaxis in the guinea-pig, and their observations have been repeatedly confirmed.[3] Inasmuch as most of these studies have had for their purpose the determination of the physiology of anaphylaxis, no attempt has been made to determine the quantitative relation, if

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the McManes Laboratory of Pathology, University of Pennsylvania, aided by a grant from the Committee on Scientific Investigation of the American Medical Association.

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3. Anderson, J. F., and Schultz, W. H.: The Cause of Anaphylactic Shock and Some Methods of Alleviating It, Proc. Soc. Exper. Biol. and Med., 1910, vii, 32. Biedl, A., and Kraus, R.: Die Serumanaphylaxie beim Meerschweinchen, Wien. klin. Wchnschr., 1910, xxiii, 385.

such exists, between the intoxicating dose of the serum and the dose of atropin sufficient to protect the animal from death. The study presented in this paper had for its object the determination of this point.

The problem was attacked from two sides. First, with a minimum fatal dose of horse-serum as a standard, the minimum protective dose of atropin was determined; the toxic dose of serum was then increased and the minimum protective dose of atropin again determined, this procedure being repeated until the dose of atropin became so large as to be markedly toxic for the animal. Second, a maximum dose of atropin, just short of the lethal dose for the animal, was administered and a determination made of the largest amount of horse-serum against which the dose of atropin protected the animal; the dose of atropin was then diminished and the maximum nonfatal dose of serum again determined. This procedure was continued until a point was reached where further reduction in the size of the dose of serum would in itself have failed constantly to produce death. Throughout the study a constant sensitizing dose of 0.05 c.c. of horse-serum was used. After a lapse of sufficient time for the animals to become actively hypersusceptible the dose of atropin was given into the exposed right jugular vein and the intoxicating dose of horse-serum three to ten minutes later into the same or opposite vein. All animals were closely observed in their cages and autopsies performed on those that died. It was found in the latter that the lungs were somewhat more congested than is the rule with typical anaphylaxis;[4] the myocardium often showed punctate hemorrhages, and the abdominal viscera were much congested but free from macroscopic hemorrhage.

The first phase of the study occupied about a month. For this reason the second injection of serum with its corresponding dose of atropin was given from twenty-five to fifty-five days after sensitization, the larger doses being given in the later periods. In the second series, however, the work progressed more rapidly, the time of sensitization being from seventeen to eighteen days; furthermore, the order of experiment was reversed in the second series, the larger doses being administered first. Any objection that might be raised on account of the varying time of sensitization in the first series is certainly overcome by the method of the second.

TABLE 1.—RELATION OF MINIMUM FATAL DOSE OF SERUM TO MINIMUM PROTECTION DOSE OF ATROPIN

Number of Animal	Dose Atropin Sulphate in Gm.	Time in Minutes Between Injections	Intoxicating Dose, Horse-Serum, in C.c.	Symptoms	Result
555	0.001	10	0.2	Increased respiratory rate with dyspnea.	Recovery.
556	0.001	10	0.4	Severe	Death (5 minutes).
561	0.002	5	0.4	Marked respiratory difficulty	Recovery.
562	0.001	6	0.6	Severe	Death (5 minutes).
564	0.002	7	0.6	Marked respiratory difficulty, convulsions	Recovery.
565	0.003	6	0.8	Severe	Death (5 minutes).
569	0.007	6	0.8	Moderate respiratory difficulty	Recovery.
570	0.008	6	1.0	Severe	Death (1 minute).
571	0.010	6	1.0	Severe	Death (8 minutes).
573	0.015	6	1.0	Severe	Death (5 minutes).
577	0.020	5	1.0	Severe	Death (30 minutes).
579	0.025	3	1.0	Moderate respiratory difficulty	Recovery.
580	0.020	3	1.5	Severe	Death (5 minutes).
585	0.040	5	1.5	Severe	Death (5 minutes).
...	0.040	..	...	Moderate increase of respiratory rate	Rapid recovery.
...	0.050	..	...	Rapid cessation of respiration	Death (5 minutes).

TABLE 2.—RELATION OF MAXIMUM NON-FATAL DOSE OF ATROPIN AND MAXIMUM DOSE OF SERUM AGAINST WHICH ATROPIN IS PROTECTIVE

Dose Atropin Sulphate in Gm.	Time in Minutes Between Injections	Intoxicating Dose of Horse-Serum in C.c.	Symptoms	Result
0.015	5	1.5	Severe	Death (5 minutes).
0.015	5	1.0	Marked respiratory difficulty; convulsions; coma	Recovery. (Death, 18 hours).
0.012	5	1.0	Severe	Death (5 minutes).
0.012	5	0.8	Severe	Death (5 minutes).
0.012	5	0.7	Marked respiratory difficulty, but without complete cutting off of air supply	Death (6 minutes).*
0.012	5	0.6	Moderate respiratory difficulty; slight general convulsions	Recovery.
0.010	5	0.6	Severe	Death (17 minutes).
0.010	5	0.5	Severe	Death (8 minutes).
0.010	5	0.4	Severe	Death (5 minutes).
0.010	8	0.3	Marked respiratory difficulty; convulsions	Recovery. (Death, 18 hours).
0.008	5	0.3	Marked respiratory difficulty; frothing at nose; convulsions	Death (18 minutes).
0.008	5	0.2	Same symptoms as preceding	Recovery.
0.006	5	0.2	Slight respiratory difficulty	Recovery.
0.004	5	0.2	Marked respiratory difficulty; convulsions	Recovery.
.....	.	0.2	Severe	Death (3 minutes).
0.018	.	...	General convulsions; respiratory failure	Death (5 minutes).
0.015	.	...	General twitching; increased respiratory rate	Recovery.

* Apparently result of exhaustion rather than anaphylaxis.

Table 1 presents the essential results of the first series of experiments. It is seen that the minimum fatal dose of horse-serum (0.2 c.c.) was insufficient to produce death when preceded by the administration of 0.001 gm. of atropin. In order to protect against 0.4 c.c. and 0.6 c.c. of horse-serum, it was necessary to increase the dose of atropin to 0.002 gm. To protect against 0.8 c.c. serum, 0.007 gm. atropin was necessary and against 1 c.c. serum, 0.25 gm. was needed. No dose sufficiently large to protect against 1.5 c.c. serum was possible, for before such a point was reached the animals succumbed to the dose of atropin. The presence of distinct symptoms of anaphylaxis in all those animals which were saved, is sufficient evidence of the fact that they were highly sensitive. It is clear then that there is a quantitative relation between the protective dose of atropin and the intoxicating dose of horse-serum.

4. Karsner, H. T.: Die Lungen in Anaphylaxie und in Anaphylaxie gleichenden Zuständen, Ztschr. f. Immunitätsforsch., in press.

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The second series is presented briefly in Table 2. Whereas the atropin used in the first series was from Smith, Kline, French & Co., that used in the second series was from Merck & Co. This fact probably accounts for the variance in absolute dosage of atropin seen in the two tables, for the animals of the two series were from the same general stock. Eighteen milligrams of atropin killed a guinea-pig within five minutes. It is seen that 0.015 gm. protects against 1 c.c. serum, 0.012 gm. against 0.3 c.c. serum, and 0.004 gm. against 0.2 c.c. serum. The minimum protective dose of atropin was not determined. The conclusion that there is a general relationship between the doses of atropin and serum is obvious. From the first series, it appeared that the curve of the dose of atropin rises much more rapidly than that of the dose of horse-serum, but this is not borne out by the results of the second series. That any such exact relationship could be demonstrated, was doubtful from the first because of slight variance in the individual susceptibility to the horse-serum. The same slight individual difference of response is seen in connection with the administration of atropin.

A STUDY OF FEVER IN TUBERCULOSIS WITH REFERENCE TO ITS CAUSATION AND TREATMENT*

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The fever which accompanies tuberculosis is a symptom poorly understood and unsatisfactorily treated. In recent years the opinion of the profession as to the chief factors in its causation has undergone several changes; and yet the most generally accepted theory at the present time is still unsatisfactory and leaves much to be explained. Since there can be no exactness in its therapy until we have formed some definite idea of its cause or causes, the importance of more study along this line is self-evident.

It must be obvious to anyone who has an opportunity to study patients suffering from advanced tuberculosis and who uses his powers of observation, that the cause of the chronic fever in tuberculosis and the factors which produce the irregularities in its course are numerous and complex. There has been an endeavor to make this subject entirely too simple and the result has been increased confusion.

The finding of bacteria of various kinds in the sputum of tuberculous patients, especially the pus-producers, has given grounds for the belief that tuberculosis, when it reaches the open stage, is a different process from that of early tuberculosis; and that the principal factors in the production of the symptoms in the later stages are the associated bacteria.

Koch[1] made the declaration that a daily temperature curve above 100.4 in a case of pulmonary tuberculosis is due to septic microorganisms and consequently unsuited to treatment with TR. This mixed infection theory was accepted by the profession generally. It called forth many such statements as these: "The tuberculous process is a dry process. If the tubercle breaks down it is because of mixed infection." "Cure the mixed infection and the tuberculosis will cure itself." "Any temperature above 100.4 is due to mixed infection." Such statements as these were believed in spite of the fact that the débris formed in cold abscesses is moist and yet free from pus microorganisms; and in spite of the fact that patients with acute miliary tuberculosis have high temperature curves before the tubercles have reached the age of softening. See Chart 7.

In order to understand the cause of these fevers, we must take a broader view and look at the question from many standpoints. I believe that the primary causes are at least three in number: the tubercle bacillus and its toxins; associated bacteria and their toxins; and enzymes and the products resulting from their action upon the body cells. This last cause is generally disregarded in discussions on this subject; and, yet, I believe it is a factor of great importance in all cases of advanced tuberculosis of the ulcerative type. I cannot help thinking that one of the greatest dangers to the tuberculous patient arises from the absorption of the products resulting from enzyme action.

Our knowledge of the action of enzymes is as yet comparatively meagre. The writings of Hahn,[2] Ascoli and Bezzola,[3] F. Müller,[4] K. Meyer[5] and Opie[6] are very suggestive and show the value of careful study along this line.

Two factors, the tubercle bacillus and the products of autolysis, are present in all cases of advanced tuberculosis. These factors are present in varying degrees which depend somewhat on the activity of the process. I do not believe that associated bacteria are an important etiological factor in the production of all fevers which rise beyond moderate elevations in advanced tuberculosis, although they are unquestionably so in some.

We are wont to look on tuberculosis of the fibroid form as being due to a type of bacillus of low virulence, believing that the greater the amount of toxins or the more virulent the bacilli, the greater the tendency to tissue destruction. This is a favorable form from the standpoint of cure. I doubt not that the comparatively small amount of autolysis present is also a very important factor in rendering this a favorable form of the disease.

The ulcerative processes, on the other hand, are more serious. We assume that the tubercle toxins are a greater factor in them than they are in the fibroid form. We also must recognize that these forms present a greater amount of autolysis. Where the tubercle bacilli are supplemented by associated bacteria, we have the severest form of the disease; for here we have both the effects of the various bacteria and their toxins and an increased autolysis.

We have attempted with a degree of success to classify these fevers and associate certain types of temperature with certain pathologic conditions. The continuously subnormal temperature we associate with both chronic fibroid tuberculosis and chronic tuberculosis of the ulcerative type during the stage of quiescence. (See Charts 1 and 2.) Doubtless in patients suffering from these types there is a minimum amount of tubercle toxins and products of autolysis entering the blood-stream; consequently there is little or no rise in temperature. Now, if the disease becomes active, however, and the tissues begin to soften, the entire range of temperature assumes a higher level as shown in Chart 3. The morn-

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Koch: Deutsch. med. Wchnschr., April 1, 1897, p. 201.
2. Hahn: Berl. klin. Wchnschr., 1897, p. 490.
3. Ascoli and Bezzola: Berl. klin. Wchnschr., 1903, p. 391.
4. Müller, F.: Verhandl. d. 20 Cong. f. Inn. Med., 1902, p. 192.
5. Meyer, K.: Berl. klin. Wchnschr., 1909, p. 1899.
6. Opie: Report of Sixth Int. Congress on Tuberculosis, Washington, 1908, p. 255; Jour. Exper. Med., 1911, xiii, No. 1, p. 162

ing temperature rises as well as that of the afternoon. I do not doubt that the tubercle toxins are a factor in producing this increase of temperature, but I am inclined to believe that the action of enzymes may be even a more important factor; for as Opie[6] says: "Injury to tissue is due primarily to the action of the tubercle bacillus, but the occurrence of caseation is perhaps distinctly referable to autolysis." The same conditions are present in what is termed caseous tuberculosis, as shown in Chart 4. Here we must consider that practically the same phenomena are occurring as in the process which is slightly active, shown in Chart 3, but that the area of involvement is much greater; consequently the temperature is higher and the symptoms on the part of the patient are more pronounced. In temperatures which are supposed to show the effect of associated bacteria, the so-called "mixed infections," we note particularly the wide daily range, starting very low in the morning and rising to a very high point in the afternoon, as in Chart 5. Here, also, autolysis must be an important factor. That we can have a continuously high fever in tuberculosis without caseation is well known. Chart 6 is the chart of a patient suffering from an acute miliary tuberculosis which was engrafted on a chronic process, and Chart 7 an acute miliary process of sudden onset, the patient dying in three weeks' time.

A glance at the accompanying charts, bearing in mind the associated pathology, shows clearly that the greater the necrosis, that is, the greater the enzyme action, the higher the fever. Study of the clinical aspects of tuberculosis associates not only the rise of temperature, but also many of the most distressing symptoms and complications with the necrosis. How much these are due to bacterial toxins and how much to enzymes and the products of their action remains to be determined.

In our discussion of the cause of fever we are forced to acknowledge that we are unable to explain exactly how bacteria and their toxins and the enzymes and the products resulting from their action produce fever; but there are such wide gaps in our understanding of its pathology which remain to be filled in by further study that we are lost in a maze of uncertainty. Krehl[7] considers that the cause of fever "lies in the mechanism which regulates heat loss," and expresses the belief that

Chart 1

Chart 2

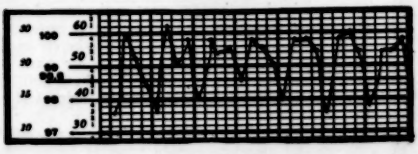

Chart 3

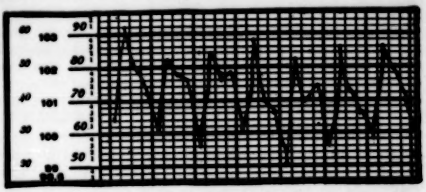

Chart 4

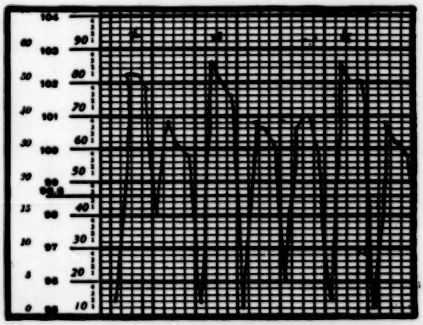

Chart 5

Chart 6

Chart 1.—Fever curve of chronic fibroid tuberculosis.
Chart 2.—Fever curve of quiescent tuberculosis, ulcerative type.
Chart 3.—Fever curve showing activity in tuberculosis of chronic ulcerative type.

Chart 4.—Fever curve of cascating pneumonic type.
Chart 5.—Fever curve of mixed infection, also showing the effect of baths in raising temperature. Crosses indicate days baths were given.
Chart 6.—Fever curve of acute miliary tuberculosis engrafted on a chronic process.

7. Krehl: Pathologische Physiologie, 1906, p. 392.

"the heat in fever is produced in such a manner that it does not furnish the normal stimulus to the mechanism that increases heat loss." Roger[8] expresses the opinion that "fever is a morbid state resulting from the exaggeration of the chemical processes concerned in the production of animal heat." He looks on the rise in temperature as being due to the reaction of the organism against bacteria, their products, and other substances among which we would place enzymes and the products of their action; and, contrary to Krehl, he says:

Thus fever is due to increased chemical activity, whether or not there be a comitant departure from the normal evolution of matter. Dissipation of heat in fever is more marked than under normal conditions, but excess in the production of heat is still more marked, hence the relative retention of heat and rise of temperature.

If we assume that the normal rectal variation of daily temperature for the healthy adult is about 1.4 F., as shown in the accompanying Chart 8, after Jürgensen,

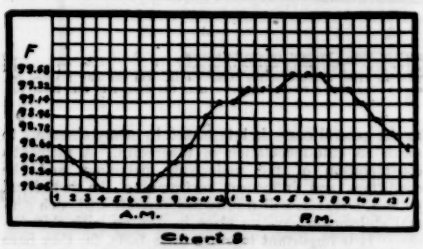

Chart 8.

Chart 8.—Showing daily course of rectal temperature under normal conditions (after Jürgensen).

and compare this with the various charts of tuberculous patients shown above, we note that when inflammation is present, the temperature as a whole rises, the variation remaining about the same for the most part except in a certain type of cases, notably those which we have been wont to designate as "mixed infection." The height of the curve seems to depend on the amount of chemical changes present and the powers of the organism to react. In the so-called "mixed infection" curves, there are two tendencies present. Careful study of toxins shows that their tendency is to lower temperature in large doses, while the tendency of the body cells is to react with an increase of temperature. In those cases which we are wont to designate as "mixed infection," the amount of toxic products set free seems to be very large; consequently if the patient's powers of reaction are still good, the daily range of temperature is much increased. We note the same wide range of temperature during the last days of life in cases in which we find post mortem, evidence of a recent wide-spread destruction of lung tissue. I believe we are justified in attributing it largely to absorption of the products resulting

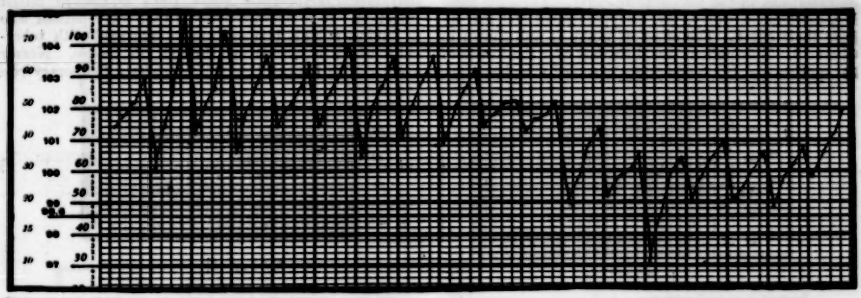

Chart 7.—Acute miliary tuberculosis, with fatal issue in about three weeks.

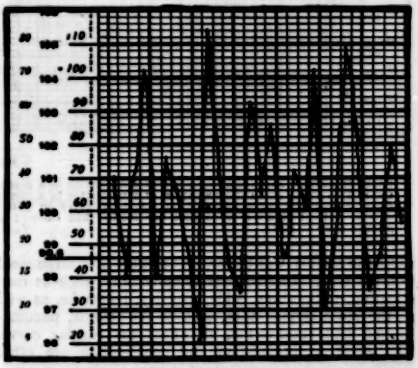

Chart 9.

Chart 9.—Fever curve showing rapid disintegration of lung tissue, absorption of large quantities of toxins, body cells still able to react.

from enzyme action. While under ordinary circumstances in quiescent and slightly active tuberculosis the normal daily variation of 1.4 F. is fairly well maintained, in these conditions there is a wide departure. From the excessively large dose of toxins the temperature is markedly depressed, reaching at times several degrees below normal. If the patient's powers of reaction are good this depression is followed by a high curve. In Chart 9 it will be noted that this range in one day amounted to more than nine degrees. As the patient's

8. Roger: Infectious Diseases, trans. by Gabriel, Lea & Co., 1903, p. 333.

power of reaction wanes, the temperature fails to reach the high points. It falls because of the toxic action and the inability of the body cells to react.

While we look on the three factors discussed above as being the primary causes of the elevations in the general temperature curves in tuberculosis, there are many factors which contribute to the variations found in these curves, some of which are subjective and others objective. Physical exertion is one of the most common causes of elevation in the temperature curve, Chart 10. In Chart 11 the effect of an overexertion may be seen in a patient who was recovering from a chronic temperature. The effect of this overexertion was never overcome. Mental perturbation is also frequently followed by variations in the temperature curve. Thought, reading, excitement, worry, joy, disappointment and fear all have their effect. The effect of worry is well shown in Chart 12. This patient was disturbed over the illness of her mother and her temperature assumed a higher plane until the mother was better. The effect of a large meal is often seen. Intercurrent complications, such as constipation, indigestion, colds, pleurisy, toothache, as well as the more serious ones, such as pneumonia, pneumothorax, and emphysema, all affect the regular curve. The effect of indigestion and constipation are often shown in a rise of temperature. Chart 13 shows an acute inflammation in a tuberculous process in the lung with probable expulsion of the contents of a softened tuberculous mass. The rise was accompanied by increased cough and expectoration.

Aside from these influences within the patient, there are some without which affect the curve materially. It must be remembered that one cause of fever is lack of dissipation of heat. Therefore, it can readily be seen how thermometric and barometric changes affect the loss of body heat and consequently the temperature curve. From Chart 14 the effect of thermometric change is very plain. The low temperature on cold mornings has long been recognized. Another fact observed is that often a very annoying variation in temperature is produced by baths, the regular cleansing bath being followed in some patients regularly by a rise in temperature no matter how carefully the bath is given, as shown in Chart 5.

It will now be readily understood that there are so many influences which affect the temperature in the tuberculous patient that we are at times completely lost in our attempt to assign the proper cause for variations which occur. As a result of this confusion, the physician is at a loss to know the correct interpretation and the proper treatment to employ.

There has been too much of a tendency to deal in generalities in discussing the fever in tuberculosis, and the factors which produce it. It is commonly believed that every temperature above 100.4 is due to mixed infection. It is likewise believed that every patient who is having a high temperature is saturated with tuberculin which is circulating through his tissues. Nearly every rise in temperature which causes a temporary rise in the general curve is interpreted by many observers to mean an auto-inoculation of tuberculin. A moment's consideration of the underlying pathology and the conditions and influences surrounding the individual patient, however, will readily demonstrate that such general statements have no place in dealing with this disease. It is important to grasp these facts, for they have their bearing on the treatment of tuberculous fevers. At best, it will be seen that treatment of these conditions is a very complex proposition. It is especially necessary to interpret carefully the temperature curve when tuberculin is employed therapeutically.

Many of the contributing causes of fever discussed above can be avoided, while some, such as those depending on thermometric and barometric conditions, must be endured. Overexertion can be avoided by a little care. The effect of mental activity can, as a rule, be overcome. Reading, thinking and excitement are largely within the power of the patient to control, while worry and disappointment can usually be avoided to a large extent if the patient and physician are in thorough sympathy with

Chart 10

Chart 11

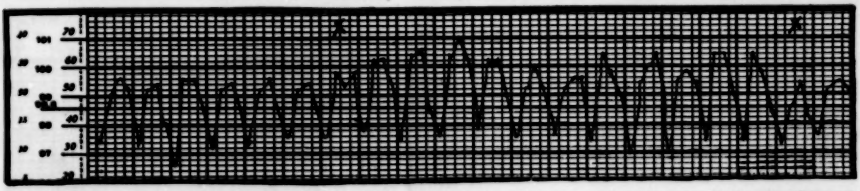

Chart 12

Chart 10.—Fever curve showing effect of overexertion in a chronic inactive case. Prompt return to normal.
Chart 11.—Fever curve showing effect of overexertion in a chronic active case. Failure to return to normal.
Chart 12.—Fever curve showing the effect of worry in patient suffering from chronic active tuberculosis. On the day marked by first star patient received word that her mother had cancer; the second star shows results of news that the diagnosis was incorrect—prompt drop in fever.

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each other and are cooperating as they should. Most of the complications which arise cannot be relieved at once. Some cannot be relieved at all. Some must run a regular course; but close personal medical supervision favors accuracy of diagnosis and affords rapid relief from many of them.

The relief of the fundamental causes of fever as described above is a very difficult matter and one which will often tax the patience of the physician and patient unless both are blessed with an unusual amount of optimism.

There are certain established therapeutic principles which may be followed no matter what the cause of the fever may be; nevertheless, there are certain fundamental facts which have been continuously overlooked that must be understood if we are going to attack this condition with any degree of intelligence.

Carefully regulated hygienic living in the open air with rest for both the body and mind, food, selected according to the patient's digestive capacity, and various hydrotherapeutic measures may be advantageously employed in all cases. These measures act by improving the general nutrition of the patient so that he may withstand the effects of fever better, also by lessening some factors which increase heat production, and by bringing about conditions which favor heat loss. None of these measures has any direct effect on the bacteria and their toxins and the enzymes and the products resulting from their action which we have mentioned above as the primary causes of the fever. The primary causes must be combated by specific measures. We know that specific antibodies are formed within the body, which bring about the natural healing of specific infections. This has led to the specific treatment of many of the infectious diseases whose causative germ has been discovered.

Tuberculin has partly won for itself, through probably the most severe trial to which a remedy has ever been subjected, the right to be considered as a specific against tuberculosis. Vaccines made from dead culture of various bacteria which we find associated with tuberculosis have proved to have specific action against pathologic conditions which are produced by their own strain. In spite of these specifics against the bacteria there are many foci which we cannot heal, many temperatures which we cannot lower in advanced tuberculosis. One reason for this is inexact diagnosis; another, that we have no specific against the enzymes and the products resulting from their action. Would it not be profitable to attempt the production of specific remedies against the body enzymes and the products of their action? This would not seem impossible, for Jochmann and Kantorowicz[9] and others have demonstrated antienzyme in the blood. Our conception of the machinery of immunity is such that we are led to believe that the cells of the body must produce substances which protect the body from these enzymes and the broken-down tissues, which are the products of their action. Our conception is that in these advanced cases, the body cells are constantly producing substances which protect the body against the tubercle bacillus and its toxins and the enzymes and the products of their action; and, where other bacteria are associated in the process, against these. Our rational therapy will be effective only as it aids and supplements these natural processes.

Chart 13

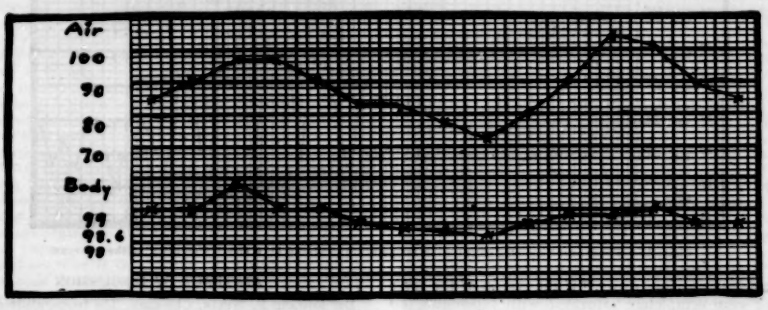

Chart 14

Chart 13.—Fever curve showing acute inflammation with expulsion of tuberculous material in a chronic inactive process.
Chart 14.—Fever curve showing the influence of the atmospheric temperature on the body temperature. Lower curve, body temperature; upper curve, air temperature.

9. Jochmann and Kantorowicz: Ztschr. f. klin. Med., 1908, lxvi, 153.

This brings us to the discussion of whether or not tuberculin is applicable in the treatment of fever patients. From a long clinical experience including several hundred fever patients, I am convinced that tuberculin when properly administered is of great value in these cases. The requirements that I would make are a thorough acquaintance with the use of tuberculin, close personal observation, such as is available in an institution, and the exercise of care and judgment in the administration of the remedy. I have frequently seen temperatures of 101 and even higher, which were reduced by tuberculin, the fall being coincident with each dose, so as to leave no room for mistake as to the cause. In such instances I have been wont to consider the bacillus and its toxins the chief cause of the rise. On the other hand, I have seen temperatures of less than 100 as well as high ones which seemed entirely uninfluenced by tuberculin. Such, I believe, are those in which absorption of the toxins of other micro-organisms or of the disintegrated tissue are the main cause.

The reason usually assigned for the non-employment of tuberculin in fever is that the patients are already saturated with tuberculin. That this is not necessarily true can easily be established. In the first place, it is probable, as mentioned above, that tubercle toxins are not the chief factor in the production of fever. Again, as noted in a previous paper,[10] if the system of the fever patient were completely saturated with tuberculin, all foci would be the seats of focal reactions which could be easily detected in all visible tuberculous processes such as ulcerations of the larynx and pharynx. But this is not true. Such processes show the focal reactions, however, after injections of therapeutic doses of tuberculin, which, in amount, are short of a fever reaction. Still again, if this were true, all tuberculous foci would break down as a result of the constant focal reactions. Furthermore, if the patient were saturated with tuberculin, the temperature would fall; for excessive doses of toxins would overcome the patient's reactive powers and cause a drop in temperature.

The reason that tuberculin should be employed in the treatment of patients suffering with fever is the same as that for employing it in non-febrile cases; that is, for its effect on the healing of the purely tuberculous processes. There are these in all cases. It must not be supposed that when a patient has an elevation of temperature the entire portion of the lung that is involved is producing the fever. On the contrary, the area which is the seat of activity is often quite small. I have seen temperatures of from 101 to 105 associated with the formation of small ulcers in the larynx and pharynx where I could feel reasonably sure that these small foci were the cause of the temperature (see Chart 15). The probability of this is strengthened by the elevation of temperature which often follows small abscesses. If the correct administration of tuberculin will not cause an intense and dangerous focal reaction, and when intelligently administered, it will not, then we can see that it can be employed in fever cases with the same advantage to the patient as in non-febrile cases. Of course this statement implies that the patient's reactive powers are still good, and capable of responding in the production of antibodies. Personally I have seen many lungs and portions of lungs which were the seat of recent infection clear out under tuberculin, while the patient ran fever and formed cavities in other portions of the lung. Whoever undertakes the treatment of such patients, however, must not expect tuberculin to do the impossible. He must be satisfied with what it is able to do and not look for miracles. It might do all that it can do and the temperature still persist.

My purpose in this paper is to show the actual as well as contributing causes of fever in tuberculosis and to show what measures may be employed against them and at the same time indicate why we so often fail.

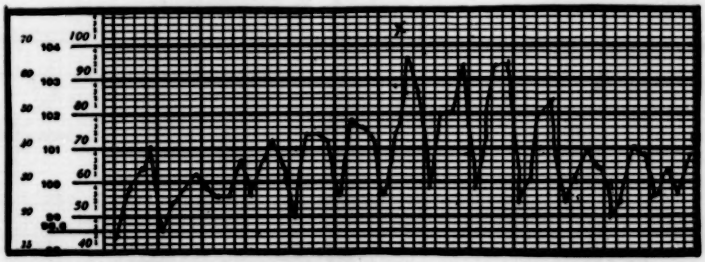

Chart 15.—Fever curve showing elevation in temperature produced by a small ulceration of the pharynx.

10. Pottenger: Tuberculin as a Therapeutic and Diagnostic Agent, in Hare's Modern Treatment, 1910, I.

ABSTRACT OF DISCUSSION

DR. EDWARD F. WELLS, Chicago: The temperature curve in tuberculosis is a matter of great importance from many points of view. Several years ago I had occasion to observe closely a number of cases of early tuberculosis, in which it was clearly shown that a slight or moderate rise of temperature, continuing for about a week, with some local and general symptoms, would be followed by a normal temperature and subsidence of symptoms for about a month. These cycles, each somewhat more pronounced than the one preceding, were repeated with considerable regularity. These observations were published at the time, and my only object in again calling attention to them is in relation to the practical bearing which they may have on diagnosis by the tuberculin reaction, when the agent is given hypodermically. It is clear that should the administration be made at the inception of one of the febrile periods the height to which the temperature might rise is not a correct measure of the reaction.

DR. NORMAN BRIDGE, Los Angeles: I should like to compliment Dr. Pottenger on the ingenious explanation made regarding the origin of fever in tuberculous patients. I think that he is probably correct. I should like to enter a protest, however, against some of his declarations in regard to the use of tuberculin. He says: "Tuberculin, when properly used, does a great deal of good." I sincerely hope that is true. But I do not believe there is anybody living who can state positively that it is true. I certainly wish that it might be true. To

my mind there is no sufficient evidence of the great value of tuberculin. Many have claimed that there is positive evidence of the value of tuberculin; in times past there has been no doubt a great deal of injury done by the use of excessive doses of this agent. Those who are now using this agent should be cautioned. I am positive that it does but a small amount of good compared with the good that results from general hygienic treatment.

With regard to Dr. Pottenger's other statement about the person who knows how to use tuberculin, I should like to enter a gentle and friendly protest, because no man living knows absolutely how to use tuberculin. In my judgment the only real and safe way is to use it in doses so small that it can do no harm; it should be given at intervals so long that no harm can come from the frequency of its administration. Time should be allowed between doses to learn if any harm results from the tuberculin. One should endeavor to learn exactly just the amount of tuberculin to give and the intervals between doses. One cannot generalize from the results obtained in a few cases; one can only generalize from the observation made of a large number—hundreds—of cases of those who have been treated side by side with and without tuberculin. And there are but few men who have had experience enough and have carried their parallel observations far enough and carefully enough to enable them to speak with authority. However, I hope the profession will continue to use tuberculin. I am in the habit of giving 1/500 mg. once a week only. I think that no harm can result from such small doses, but that some benefit will result in some cases. But that the giving of this agent in any case will be productive of great good, I do not believe.

DR. FRANK BILLINGS, Chicago: I supposed that the question of the fever in tuberculosis had been pretty well settled and that it was due to toxins. Last year while in England I enjoyed a visit with Dr. Paterson, who explained his method of treating tuberculosis by auto-inoculation. Of course I knew something of it before my visit and had seen some of the results of its employment here. If I understand Dr. Pottenger correctly he does not believe that tuberculin in any dose produces or reduces temperature. I simply rise to ask his opinion regarding this point. Were these patients afflicted with the miliary type or the acute ulcerative type?

DR. PHILIP KING BROWN, San Francisco: I also rise to ask a question. I do not understand what Dr. Pottenger means by autolysis in fever in tuberculous patients. This is rather a technical term and difficult to follow in connection with what he says regarding fever in tuberculosis. I have labored under the impression that there was a toxic agent at work which produces fever in this disease. As a matter of fact Dr. Vaughan made some interesting experiments, reported before the Association of American Physicians last summer, on the protein reaction as a cause of fever in bacterial diseases. The animal experimented on could be caused to have temperature of any type by the introduction of some protein substance subcutaneously. Most of the work was done with egg albumin. Dr. Vaughan explained the resulting fever as depending on some anaphylactic action. The extent of this reaction depended on the frequency and the amount of the protein introduced. I should like Dr. Pottenger to state whether he had gone into this carefully and what he means by stating that toxins do not cause or increase the fever.

DR. C. F. TENNEY, Toledo, O.: I have given tuberculin with beneficial results when the temperature has not been above 99.4 F. If the temperature is higher than 99.4 F. I believe that rest is indicated. I should like to ask Dr. Pottenger why he gave tuberculin when there was a high temperature.

DR. F. M. POTTENGER, Monrovia, Cal.: If I had been permitted to read my paper in full the various questions asked me would most probably have been satisfactorily answered. Dr. Bridge has certainly been unfortunate in his experience with tuberculin. I wish to state emphatically that I do not agree with what Dr. Bridge has stated regarding the use of tuberculin. The intelligent use of tuberculin, like all other remedies, consists in individualization, suiting the dosage to the individual patient under treatment. When one uses tuberculin after the manner described by Dr. Bridge, unsatisfactory results are sure to follow. One does not operate in any two cases of appendicitis alike, or treat any two patients with typhoid fever the same, neither does one administer digitalis nor strychnin alike in all cases, and yet Dr. Bridge would have us give 1/500 mg. of tuberculin once a week to all patients who are treated with tuberculin. I would not want to have it go out from this meeting that this is the proper use of tuberculin. Such a method is erroneous and incapable of producing the best results.

For fifteen years I have preached the importance of individualization in the use of tuberculin. To give so many drops of this or that dilution at certain intervals cannot be expected to be productive of much good. One must bear in mind what tuberculin is and what it is supposed to do. Unless great care is used in its administration much harm may result, but when used intelligently good must just as necessarily follow.

When tuberculin is being used all other measures which are recognized for building up the patient should be employed.

Tuberculin can be employed as intelligently as any other remedy that we have. We cannot give a satisfactory explanation of the action of many of our remedies, but this must not deter us from using them according to our clinical observations. Small doses of tuberculin are not necessarily conservative. The proper method of using tuberculin is to give the right dose at the right time. If one starts in with small doses and increases them gradually, the patient will soon bear the doses without danger of reaction. In my private work I always have more than 100 patients under treatment with tuberculin and yet I rarely have a rise of temperature of more than ½ degree as a result of its administration. I agree with Dr. Bridge that no one knows exactly how this remedy acts. Who knows all about digitalis or strychnin? Our lack of knowledge, however, does not deter us from producing good results.

Dr. Billings speaks of the work of Paterson. I am familiar with Paterson's observations and think he is doing an admirable work, but it must not be forgotten that he is dealing exclusively with early inactive cases. The patients of whom I am speaking are almost all advanced and suffering from active tuberculosis. Rest is an absolute essential in the treatment of all cases of active tuberculosis. I always enforce it if the temperature is above 100, and in many cases in which it is under, if other conditions would indicate it.

Regarding Paterson's interpretation of every rise of temperature following exertion, as an auto-inoculation, I think there is some room for question. I do not believe that all these can be ascribed to an auto-inoculation of tuberculin. There are other factors which come in.

Regarding the effect of large doses of toxins in reducing temperature, many experiments have been performed in which staphylococci and streptococci as well as tuberculin have been employed, showing that following the injection the temperature was markedly decreased, and if the dose is fatal the animal dies with subnormal temperature.

In reply to Dr. Brown regarding enzymes and autolysis, I would refer him to the excellent work done by Frederick Muller, Ascoli and Bezzola, and Opie. From my clinical experiments I believe that enzymes and the products of autolysis are very important factors in the production of fever and that they deserve very careful study.

Significance of the Death-Rate.—The general death-rate is the most important single piece of evidence of the health of a place, says W. S. Rankin in *Bulletin of the North Carolina Board of Health*. Just as general vitality in an individual is counted in the rise and fall of the pulse wave, so the general vitality of the body politic is counted in the rise and fall of its death-rate. At first glance this symptom might appear as misleading. In certain cases attention might be called to the fact that diseases like hookworm and malaria rarely terminate fatally. This seeming inaccuracy disappears when we recall that diseases, not of themselves terminating in fatal issue, tend to that end by lowering the general resistance of the body to death-dealing germs, and so indirectly and ultimately register their existence in increasing death-rates.

EXPERIMENTS ON THE RELATION OF THE THYROID TO DIET *

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From the results of some recently published experiments[1] I suggested the hypothesis that certain diets have specific effects on the activity of the thyroid gland; the results of these physiologic experiments were, in part, in accord with histologic studies made some time ago by Watson. This hypothesis was based largely on the fact that certain diets have an effect on the resistance of animals to certain poisons similar to that caused by the administration of thyroid, and, further, on the observation that the effect of the administration of iodin to animals is, in part, determined by the character of the diet; it was held that the latter determined the ability of the thyroid to combine with the iodin.

I have recently endeavored to put this hypothesis to further experimental test. The results are in entire harmony with the above views, although I do not consider the experiments sufficiently numerous or varied to be entirely conclusive.

METHOD

The method was the same as that used in the preceding experiments, and is based on the increased resistance which mice show to acetonitril after the feeding of thyroid.

It had been found in earlier work that the resistance to this poison was much greater in the case of mice which had had a diet of oatmeal, or of oatmeal and liver, than in the case of those which had had a diet of eggs, crackers, and milk.

The effect of these diets on the resistance to the poison was now determined in mice from which the thyroid glands had been removed.

In the first series the thyroids were removed from a large number of young mice. In many cases the operation was not satisfactory, portions of the thyroid undoubtedly being left. A considerable number of the animals died, many of them in tetany. The survivors were placed on the exclusive diets of eggs or of oatmeal for thirty days, when their resistance to acetonitril was determined. Table 1 shows the results:

TABLE 1.—FATAL DOSE OF ACETONITRIL IN MG. PER GM. OF MOUSE

	Controls.	Thyroidectomized.
Egg-fed	0.40-0.43	0.44
Oatmeal-fed	0.85	0.63

The normal mice fed on oatmeal were, as usual, more resistant to the poison than the normal mice fed on eggs. Thyroidectomy had had no effect in the case of the egg-fed mice, but had distinctly lowered the resistance of the oatmeal-fed mice. This result is in harmony with the hypothesis that the high resistance of the oatmeal-fed mice is due in part, but only in part, to an effect of this diet on the thyroid.

In the second series, young mice were kept for a few weeks on diets of oatmeal and liver, and on crackers, milk, and eggs. The thyroids were then removed from a number of each group and the same diets continued for twelve days. The thyroids of the oatmeal and liver-fed group were invariably very large and vascular, bleeding readily; those of the other group were exceedingly small and pale. About 80 per cent. of the oatmeal-fed mice died, most of them in tetany; 33 per cent. of the other group died. Twelve days after the operation the fatal dose of acetonitril was determined with the results shown in Table 2.

TABLE 2.—FATAL DOSE OF ACETONITRIL IN MG. PER GM. OF MOUSE

	Controls.	Thyroidectomized.
Crackers, milk and eggs	0.15	0.17
Oatmeal and liver	4.3	2.2

Thus the controls which had been kept for several weeks on the oatmeal-liver diet were far more (almost thirty times as) resistant to the poison as those which had been on the diet of crackers, milk, and eggs. Thyroidectomy had little effect on the resistance of the latter; it lowered that of the former by about one-half.

The next series is of interest from another point of view. A large number of young mice were fed for thirty days on oatmeal, crackers and eggs, before the removal of the thyroids. This diet was selected on the belief that the mice receiving it would have neither the large and excessively vascular thyroids of those fed on oatmeal and liver, nor the extremely small glands of those fed on crackers, milk, and eggs. As a matter of fact the thyroids were of medium size and easily removed. The fatal dose of acetonitril for the controls of this series was 1.8 mg. per gram (as compared with 4.3 for the oatmeal-liver-fed mice, and 0.15 for those of the preceding series fed on crackers, milk, and eggs).

The thyroidectomized mice and a number of the controls were then given crackers containing 0.1 per cent. potassium iodid for ten days, when their resistance to acetonitril was determined; the results shown in Table 3 were obtained.

TABLE 3.—FATAL DOSE OF ACETONITRIL IN MG. PER GM. OF MOUSE

	Controls.	Potassium Iodid.
Normal	1.8	1.8
Thyroidectomized	...	0.7

As a rule the administration of potassium iodid (and many other iodin compounds[2]) to mice increases their resistance to acetonitril (increased activity of the thyroid); that it did not do so in this case was probably due to the inability of the thyroid, for some reason, to combine with the iodin. The thyroidectomized mice withstood less than half as much acetonitril as did the controls. This I believe to be due to the absence of thyroid secretion.

The above experiments shows that the high degree of resistance of mice to acetonitril caused by certain diets is due in part to the activity of the thyroid gland. In cases in which the thyroid was apparently not very active (as judged by its small size and the low resistance to acetonitril), its removal had no effect on the resistance to the poison; this was the case with the mice fed on eggs, and crackers, milk and eggs.

I had found in earlier experiments that removal of the thyroid did not have a constant effect on the resistance of guinea-pigs to acetonitril; Carlson and Woelfel state that they obtained similarly negative results with rats and mice. The above considerations seem to sufficiently explain such negative results; the latter do not at all invalidate the conclusion that the acetonitril test is a test for thyroid activity, at least when the latter is exaggerated.

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Bull. 69, Hyg. Lab., P. H. and M.-H. S.

2. Hunt and Seidell: Jour. Pharmacol. and Exper. Therap., ii, 15.

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In other experiments the thyroids of the mice (or of other animals) which had received special diets were removed and fed to other mice; the resistance of the latter to acetonitril was then determined. There is obviously more than one possibility here: a thyroid might be very active but, owing to conditions favorable to secretion, contain at one time little of the secretion itself; this seems to be the case, for example, with the thyroid in exophthalmic goiter. Or the thyroid might be very active and also contain a considerable amount of the secretion. Both of these possibilities seemed to be realized in my experiments; with some diets the greater the resistance of the animal to the poison the less was the protective action of its thyroid when fed to other animals. With other diets the reverse occurred; the greater the resistance of the animal the greater the activity of its thyroid. The following is an example of the latter class of experiments:

One group of mice was kept for several weeks on a diet of crackers, milk, and eggs; the fatal dose of acetonitril was 0.1 mg. per gram of mouse. Another group was kept on a diet of oatmeal and liver; the fatal dose of acetonitril was 0.33 mg. per gram. The average weight of the mice of the former group was 19.81 gram; that of the latter 19.52 gram. The thyroids were removed from the two groups, dried, and fed to other mice so that each of the latter received one-half of the thyroid of a mouse per day. After ten days the resistance of these mice was determined: The normal (control) animals died from 0.7 mg. acetonitril per gram; those receiving the thyroids of the group fed with crackers, milk, and egg died from 1.6 mg., those receiving the thyroid of the oatmeal-liver-fed group died from 2.3 mg. Thus there was a parallelism between the resistance of the mice and the activity of their thyroids.

Similar results were obtained with rats. In these animals the administration of thyroid causes a lowered resistance to acetonitril; hence a low degree of resistance suggests an active thyroid and vice versa. In one series of experiments rats on a certain diet died from 1.2 mg. acetonitril per gram; rats on another diet recovered from 3.3 mg. per gram. It was suspected that the thyroids of the former would be found more active than those of the latter when fed to mice; this supposition was confirmed: Mice receiving the thyroids of the former group of rats recovered from 3.5 mg. acetonitril per gram; mice receiving the thyroid of the rats of the second group died from 2.5 mg. per gram. Thus here

TABLE 4.—RESISTANCE TO ACETONITRIL OF MICE ON SPECIAL DIETS WITH FEW AND MANY OFFSPRING

First Four Months' Diet.	Oatmeal and Liver.	Crackers, Milk and Eggs.	Corn-Meal and Milk.
No. of young born	0	97	69
Fatal dose of acetonitril in mg. per gm. of mouse		About 0.23	About 0.55

Second Four Months' Diet.	Crackers, Milk and Eggs.	Oatmeal and Liver.	Corn-Meal and Liver.
No. of young born	59	28	41
Fatal dose of acetonitril in mg. per gm. of mouse	0.27 to 0.45	2.3 to 4.4	2.5 to 4.5

again there are two distinct lines of evidence for the view that the diet has an effect on the activity of the thyroid.

Finally, attention may be drawn to an interesting parallelism between the effect of certain diets on the resistance of mice to acetonitril, and their effect on the reproductive activity of the mice. Four groups of mice, each consisting of three females and one male, were fed on the diets named below for four months; at the end of each month the young were removed and their resistance to acetonitril determined. After four months the diets were changed. Table 4 shows the results.

Thus with these special diets the young of the mice producing the most offspring were the least resistant to the poison; the young of those producing the fewest offspring were the most resistant. Whether this is true with other diets has not been determined. In an earlier paper I showed that in many cases there is a parallelism between the rate of growth and the sensitiveness to acetonitril; a similar parallelism is seen here between the sensitiveness to this poison and the reproductive activity. We are now conducting experiments to determine if there is any relation between the reproductive activity and the rate of growth (as determined by special diets) and the inoculability of carcinoma.

An interesting fact shown in the above table is that the diet seemed to have a long-continued effect on the reproductive activities; mice taken from a mixed diet (of bread and oats) and placed on one of oatmeal and liver produced no young in four months, whereas mice which had received for four months a diet of crackers, milk, and eggs, continued fairly productive when placed on a diet of oatmeal and liver.

SUMMARY

These experiments afford additional experimental support for the view that certain diets have specific effects on the thyroid glands of some of the lower animals. It is probable that analogous relations hold for human beings. Although it is possible that the effects differ in different classes of animals it would be interesting to determine if, in cases of hypothyroidism, the administration of oatmeal and liver, for example, would have a favorable influence, and if the withholding of them from patients with hyperthyroidism would be found advantageous. The most promising class of cases for such observations would be the mild degrees of thyroid derangement, such as those recently described by Kocher in his Nobel lecture.[3]

ABSTRACT OF DISCUSSION

DR. THEODORE G. DAVIS, Los Angeles, Cal.: This would suggest a practical point; that is, the fact of the thyroid gland antidoting the drugs having benzoyl and anilin bases, as acetanilid and many others derived from that group; as the trinitril is the test for acetanilid and similar compounds.

3. The results of the experiments described above are in harmony with the interpretation I have hitherto placed on the acetonitril reaction, viz., that it is a test for the internal secretion of the thyroid: the results obtained by feeding the thyroid gland itself I have interpreted as being due to its containing some of the internal secretion.

Trendelenburg (Biochem. Ztschr., 1910, xxix, 396) has interpreted the results in a different manner. He fully confirmed my results that the administration of thyroid increases the resistance of mice to acetonitril; but he also found that the blood of thyroidectomized cats protected mice against this poison. He believes that in the absence of the thyroid, toxic substances accumulate in the blood, and that these cause the reaction; he also believes that these substances, when absorbed by the thyroid, cause the latter to give the test. Trendelenburg did not test the resistance of the thyroidectomized cats to acetonitril.

These results show how complicated the problem is. It would be useless to indulge in much speculation without further experiments, but it may be suggested that, assuming the processes to be the same in mice and cats, there is a formation of protective substances in the absence of the thyroid, but that these are unable to protect the animal producing them without the interaction of the thyroid gland itself. Or, possibly, in Trendelenburg's experiments thyroidectomy had caused changes in the composition of the blood so that this contained protective substances analogous to those contained in oatmeal, liver, the prostate, etc., or substances which stimulated the thyroids of the mice to increased activity; for while my experiments show that the effect of oatmeal and liver is in part due to an effect on the thyroid they show equally plainly that other factors are involved.

There are no contradictions in the experimental results of Trendelenburg and myself, and there may also be no real contradiction in our interpretation of them.

A PLEA FOR MORE DIRECT METHODS IN DEALING WITH GASTRIC ULCERS AND CANCER*

R. C. COFFEY, M.D.
PORTLAND, ORE.

The strides in gastric surgery during the last ten years have been very remarkable. Originally the first aim of the surgeon was to diminish the mortality of disease with the least mortality resulting from the means of relief, but as Dr. Charles Mayo says, the modern requirement is the relief of morbidity. In other words, the patient not only demands relief from the immediate conditions with a low mortality, but he has a right to expect symptomatic relief and immunity from sequelæ. I dare say that the first thought of most, if not all operators in the early development of the surgical treatment of callous gastric ulcer was the excision of the ulcer. The first stomach operation of any kind that I ever attempted was ten years ago, when an ulcer in the posterior wall and lesser curvature, such as shown in Figure 4, was excised. The patient died from faulty technic and I did no more gastric surgery until I learned more of Mayo's work in gastro-enterostomy. It is possible that other surgeons have had similar experiences which have not been reported.

Fig. 1.—Post-mortem specimen of stomach mucous membrane in which is shown a stoma forty-eight hours after a gastro-enterostomy; also a slit in the mucous membrane produced by clamps. Crossing the slit is a vessel which was devitalized by the clamp and which gave way thirty hours after the operation, producing a fatal hemorrhage.

The brilliant work of Mayo Robson, the Mayo brothers, Mickulicz, Moynihan, and others, brought gastro-enterostomy so prominently before the profession and so rapidly reduced the mortality that it became almost the universal operation for gastric ulcer. Soon afterward, however, Rodman ventured to put forth his bold procedure for excising the ulcer-bearing area in the pylorus. The mortality has deterred the majority of surgeons from adopting it, but, as technic has been improving, more and more work is being done along this line. The mortality has been greatly diminished, and, as the reports come in year by year, we learn that many of the ulcers supposedly cured by gastro-enterostomy have been only temporarily relieved, and, in the case of ulcers located at other points than near the pylorus, there has not been even temporary relief in a large percentage of cases; furthermore, the danger of the development of cancer in a callous ulcer is much greater than has been supposed. Gerster[1] makes the following summary on callous ulcer of the stomach:

During the past year attention has been called by authors, both here and abroad, to the great tendency of callous gastric ulcer to carcinomatous change. Wilson and McCarthy[1] have shown that in 71 per cent. of resections for carcinoma, a pre-existing callous ulcer could be demonstrated. This was in a series of 153 cases. At the meeting of the Deutsche Gesellschaft für Chirurgie, in the spring of 1910, Ewald stated, in discussing Payr's report that 26 per cent. of gastric ulcers underwent malignant change, that he considered this estimate far too low. In Germany, the trend of opinion seems to be developing in this direction. In France an experience of Tuffier bears out this point. He found an induration of the greater curvature, the size of a nut, with two slightly enlarged lymph-nodes in the great omentum near by. The

Fig. 2.—Placing traction loops preparatory to opening the stomach for exploration.

impression gained was that of a chronic ulcer. It was resected and the nodes extirpated. Microscopic examination revealed a typical callous ulcer, at the base of which a carcinoma was beginning to develop. From this experience he concludes that every gastric ulcer which is solitary, and which is easily accessible, should be extirpated. Many other surgeons have emphasized the impossibility of distinguishing malignant from inflammatory tumors of the stomach by gross examination.

The general trend of opinion seems to be leading to this: that gastric ulcers, situated in the body of the stomach but not yet causing stenosis, are not cured by gastro-enterostomy. Resection, when possible, should be done, not only because the ulcer is not cured by gastro-enterostomy, but mainly because its continued existence is a constant menace as regards the probability of a change to carcinoma.

Eiselsberg advocates unilateral pyloric exclusion in addition to gastro-enterostomy for ulcers in the pylorus in cases in which the condition of the patient makes resection dangerous or impracticable because of the presence of adhesions; also in those cases in which there

* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* For reasons of space, a large number of illustrations are here omitted, but the complete article appears in the Transactions of the Section, and also in the author's reprints, a copy of which will be sent on request by the author or by THE JOURNAL on receipt of a stamped and self-addressed envelope.

1. Progressive Medicine, June, 1911, p. 110.

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is doubt regarding the nature of the tumor existing, and when for apparent reasons one cannot resect. For, as he states, "even a cancer, where it is not subject to the passage of fluid over it, has its growth very much retarded." Eiselsberg further suggests this procedure as a preliminary step to a resection to be carried out on some later occasion.

Mayo, in 1908, made the statement that all callous ulcers not located at or near the pylorus should be excised by direct attack. In 1910, he described[2] a method of transgastric excision of ulcers of the posterior wall which he stated had been previously used by Dr. Pilcher. In the same month I published an article[3] in which another method of excising ulcers of the posterior wall was described, and a number of cases were reported. In this work, clamps were used to protect the field. In the very next case of the kind, after the publication of this paper, it became evident that the ulcerating process had extended beyond the clamps, making it necessary to release the clamps and extend the excision. This allowed a good deal of spilling of stomach contents and among other things revealed the fact that the mucous membrane had been injured by pressure of the clamps. The operation was finally completed

Fig. 3.—Lifting a section of anterior stomach wall by traction loops to permit the air in the stomach to rise to point of proposed incision.

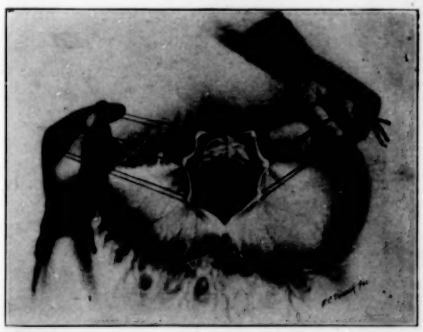

Fig. 4.—The stomach has been incised, exposing the mucous surface. A callous ulcer is seen in the background, while the fluid contained in the stomach may be seen gravitating to the back. Dotted line indicates extent of incision by which this ulcer was removed from the posterior wall and the lesser curvature.

and the patient recovered. By this case, however, I learned that the use of clamps is by no means ideal for this excision and further that it is not without danger. Curiously enough, my very next stomach operation—although the simplest kind of a gastro-enterostomy for obstructive ulcer and an ideal case—resulted in the death of the patient from secondary hemorrhage from pressure of the stomach clamps, which case I shall relate in detail:

The patient, a male, 50 years of age, had suffered with stomach trouble five years or more. Recently he had rapidly lost flesh and was unable to retain food to any extent. He was referred to me by Dr. Noble Wylie Jones, October 28, with a diagnosis of an obstructive ulcer at the pylorus. The chemical examination of gastric juice showed a slight excess of free hydrochloric acid. October 29, the patient was operated on, a callous ulcer obstructing the pylorus just on the duodenal side was found, and a gastroenterostomy was performed by the posterior no-loop method. The case was an ideal one. The operation was completed in 30 minutes in a very satisfactory manner. The patient was in no way shocked or depressed by the operation and 24 hours after the operation felt well and had a normal pulse and normal temperature. Thirty hours after the operation the nurse noticed an increase in the patient's pulse rate but she was unable to reach me until 36 hours after the operation, or 10 p. m., October 30. At this time the patient's pulse was about 160. I immediately called Dr. Jones and we were unable to make a diagnosis of anything serious. As the patient's wife stated that he had frequently had spells of palpitation of the heart, we tried to persuade ourselves that it was a nervous condition. The patient did not vomit nor was he nauseated. Gas passed from the bowels, but no blood. The temperature was about 100. Therefore we could not believe bleeding was taking place. The patient died at 6 p. m., October 31, 56 hours after the operation. A necropsy was held shortly after death. When the abdomen was opened the intestines were seen to be filled with dark blood. On opening the stomach and examining the ulcer we found that no hemorrhage had taken place from the ulcer. Examination of the stoma, which shows in the center of Figure 1, showed union perfect and no possibility of a hemorrhage. The stomach was practically empty, while the intestines were filled with blood. We realized that death had been caused by hemorrhage but we had not found the point from which the hemorrhage had come, and did not find it until the stomach was entirely removed and washed, when we discovered a slit in the mucous membrane about an inch from the stoma which marked the place where one blade of the clamps had held the stomach. Running directly across this slit in the mucous membrane was a blood-vessel the wall of which had sloughed. The clamp had devitalized the vessel and the gastric juice, being excessive, had undoubtedly digested the devitalized coat of the vessel and the hemorrhage began.

I had previously noted in animal experimentation that the mucous membrane is frequently broken by the clamp in gastro-intestinal anastomosis, but as I had not seen cases of death reported from this cause I inferred that there was practically no danger. The clinical experience just mentioned coupled with what I have seen in animal experimentation has led me to the belief that there have unquestionably been other deaths from the same cause, in which cases the cause has been either undetected or unreported. The function of clamps in gastro-intestinal surgery is three-fold: to hold the viscus for convenient suturing; second, to prevent the escape

2. Ann. Surg., December, 1910.
3. Coffey, R. C., Surgical Treatment of Ulcers Along the Lesser Curvature, Surg., Gynec. and Obstet., December, 1910.

of large quantities of gastro-intestinal contents; third, to control hemorrhage while the operation is going on. After these experiences I sought to devise a plan by which these ends could be accomplished without the use of clamps and made extensive experimental studies in devising a technic. First, as to the manner of holding the viscus, I soon found that traction loops passed through all the coats, as shown in Figure 2, held it just as well as clamps; second, if traction loops were placed on tension, thus lifting high a part of the front wall of the viscus (Fig. 3), the air in the viscus rose to the top so that when the lifted part was incised, the air escaped, the intravisceral pressure was destroyed, the fluid gravitated to the posterior and lower portions (Fig. 4) from which it could be dipped out with a ladle or dipper, and the viscus could be dried and made clean with gauze without spilling a drop of the fluid (Figs. 5 and 6); third, the hemorrhage could be controlled by temporary use of artery forceps or ligation of the vessels.

An exploratory incision in the stomach should usually be made transversely, thereby parallelling the vessels and avoiding hemorrhage almost entirely. Through such an incision, after the fluid has been removed by

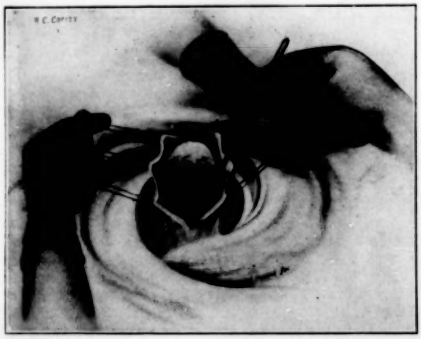

Fig. 5.—Dipping fluid from the open stomach with a ladle.

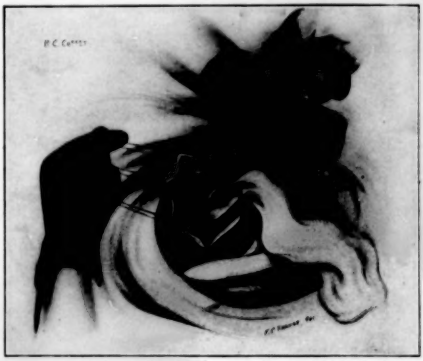

Fig. 6.—Sponging the mucous membrane dry with gauze.

the technic just described, an accurate inspection of the stomach mucous membrane can be made with no danger of spilling the stomach contents or soiling the peritoneal cavity. If an ulcer exists, the remainder of the stomach may be explored for other possible ulcers and the general condition of the mucous membrane inspected. When an ulcer is found, as shown in Figure 4, it is then well to open the gastro-colic omentum and the gastro-hepatic omentum and pack the lesser peritoneal cavity with gauze, after which the ulcer may be excised by any technic which may be suitable for the case at hand, for, after the stomach is well cleaned and inspected as I have described, no matter where the ulcer is, it may be trimmed out with a pair of scissors exactly in the same way in which a bad spot in a garment may be trimmed out, preparatory to mending. The ulcer shown in Figure 4 for excision was located on the posterior wall near the attachment of the gastro-hepatic omentum. It was trimmed out by extending the exploratory incision down nearly to the ulcer, as shown by the dotted line, and then by the cutting out of the callous portion around the ulcer. The wound was then closed just as we would close the original exploratory incision, which process is as follows:

The line of sutures begins from within. The needle passes from within out and from without in and the suture is knotted inside as shown in Figure 7. The loose end is cut off and the suture continued by a right-angle, through-and-through suture the length of the incision. The traction loops are tied together over the line of union, as shown in Figures 8 and 9. These traction loops make inversion of the edges very simple. After this is done a peritoneal suture may be used to cover up all the knots (Fig. 10). This makes an ideal technic. In case the exploration reveals extensive ulceration at the pylorus or reveals a malignancy (Fig. 11) requiring a pylorectomy, the greater omentum below and and the lesser omentum above are ligated in sections and the vessels running along the curvatures of the stomach are doubly ligated at each end. The gauze is also packed into that part of the stomach which is to be retained as well as that part which is to be removed. The lesser peritoneal cavity having already been packed with gauze, the field of operation is practically extraperitoneal. The gauze within the ends of the stomach takes up every particle of the fluid. The exploratory incision is now extended to the point of cutting the stomach in two. Tenaculum forceps grasp the two walls of the stomach and the gauze in each of the divided ends. Two traction sutures are placed in the anterior and two in the posterior wall of the duodenum just below the place at which the section is to be made (Fig. 12).

The section of the duodenum is now made and the pylorectomy is completed. The distal cut end of the duodenum is held up by the four traction sutures, which arrangement causes the fluid to gravitate down the intestine while the end is being sutured after the manner shown in Figures 7 to 10. The cardiac pouch of the stomach is now inspected. If there is any portion of the remaining stomach which looks suspicious, it may be removed with perfect ease. If not, three additional traction loops are placed on the posterior wall of the stomach, as indicated, and the end closed in the manner shown in Figures 7 to 10. The cardiac pouch is now connected to the duodenum by a posterior gastro-enterostomy without clamps, as follows:

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An opening in the mesocolon is made with the finger or forceps just to the left of the ligament of Treitz. Four traction loops are passed through all the coats of the stomach and are so arranged that there will be one traction loop on either side of the end of the line of proposed incision, which line is about 2 inches in length. Four corresponding sutures are placed in the jejunum, the upper one being about 1 inch from where the jejunum emerges. The traction loops in the stomach nearest the intestine and the traction loops in the intestine nearest the stomach are designated inner traction loops (I. T. L.) as they are located inside the proposed line of incision into the stomach and intestine. The other traction loops are located outside the proposed line of incision and are designated outer traction loops (O. T. L.). Gauze sponges are now laid between the stomach and the intestine (Fig. 13). The next step in the operation consists in placing a continuous peritoneal suture (C. S. 1) as shown in Figure 14 which is begun at the end of the incision farthest from the operator. After two or three stitches have been taken the two inner traction sutures at this end are tied over the line of suture. The continuous peritoneal suture (C. S. 1) is then continued to the other end of the proposed incision just beyond the inner traction sutures. This continuous peritoneal suture (C. S. 1) is then knotted on itself and laid aside until all other steps of the operation are completed, when it is continued around the anastomosis as a finishing suture. The other inner traction loops are now tied together, and are from now on used to hold up the intestine (Fig. 15). In order to be sure that this peritoneal suture is not disarranged by the further steps of the operation, a continuous through-and-through suture of catgut is run from one pair of traction sutures to the other (on the posterior side only) before any incision is made in the stomach or intestine (Fig. 16). This suture has been designated the posterior reinforcement suture (P. R. S.).

An assistant now picks up the outer traction loops (O. T. L.) and lifts up the stomach and intestine while the surgeon makes an incision with the knife down to the mucosa and then opens the mucosa with a pair of scissors (Fig. 17). There will usually be two or three bleeding vessels on the stomach side which should be caught with mosquito forceps and ligated with small thread. It will be found on opening the stomach and intestine that the fluid has gravitated away from the field, leaving it perfectly clean and doing away with the necessity of any clamps or constriction. The second continuous suture (C. S. 2) then begins at the end of the anastomosis nearest the operator and proceeds as an over-and-over stitch to the opposite end (Fig. 18), when the corner is turned and this suture (C. S. 2) returns to the operator with a right-angle, continuous through-and-through suture indicated in Figure 19, where it is tied to its other end. The outer traction sutures are now tied over the line of union. The second continuous suture (C. S. 2) may be chromicized catgut or linen. For the final step of the operation the continuous peritoneal suture (C. S. 1) is now picked up and made to cover in the through-and-through suture and the knots of the traction loops, and it is finally tied to its originally free end (C. S. 1, Fig. 20) In more than fifty experimental operations by this method our average time has been about fifteen minutes. Under exactly the same circumstances we are able to do this operation just as quickly as when we have used the clamps. The line of suture is made much stronger at the ends by the inner traction sutures posteriorly and the outer traction sutures anteriorly than can possibly be done without the traction loops. The reader will readily observe the immense holding power of these traction loops after they are tied together, by looking at Figure 21, which represents a sectional view across the ends of the anastomosis. Figure 22 shows a sectional view across the middle of the anastomosis, which differs in results from the ordinary clamp method in use when clamps are employed only by having the posterior reinforcement suture.

We have recently removed the cecum for carcinoma and have then made an anastomosis between the ileum and the transverse colon by this method. To our delight we found that the fluid within the closed intestine, both large and small, had gravitated away from the field of operation, leaving the field perfectly clean (Fig. 23). The necessity for leaving an inch or two of dead end of the ileum and cecum into which part of the fluid at the site of operation may gravitate will readily be appreciated.

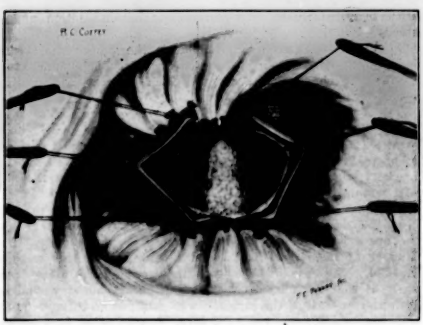

Fig. 11.—A transverse exploratory incision to determine the extent of a cancer of the pylorus developing on an ulcer. Gastrocolic and lesser omenta have been cut and the lesser puritoneal cavity is filled with gauze. The stomach has been emptied and dried, as in Figures 5 and 6. Vessels at the upper and lower borders of the stomach have been ligated preparatory to doing pylorectomy.

Fig. 12.—Stomach has been cut near the middle and each end is packed with gauze to prevent soiling. Three additional traction loops have been placed in back wall of the cardiac pouch preparatory to closing this remaining portion by technic, shown in Figures 7 to 10, inclusive. The pyloric portion has been freed and is ready to be removed by cutting the duodenum at the dotted line. Traction loops have been placed on each side of the duodenum to facilitate the technic of its closing.

The gastro-enterostomy without clamps here described was primarily intended only for those cases in which the stomach had previously been emptied through an exploratory incision and it was thought that it would be necessary to constrict the intestine above and below with gauze to protect from intestinal contents, but we soon found that the field was much cleaner without constriction, for no matter how much we tried, the inclosed field could not be stripped perfectly clean when clamps were used. The gastro-enterostomy can be done without clamps on an unopened stomach provided the site of operation can be lifted to a higher level than the other portion of the stomach, and the fluid can be removed by the method shown in Figures 5 and 6. If, as a result of adhesions, or a short mesocolon, it is impossible thus to lift the stomach, it is necessary to empty it by the method shown in Figures 2 to 6, as a preliminary step, which process it is probably wise to follow in most cases of ulcer of the stomach for purposes of exploration. In simple uncomplicated obstructive ulcer at the pylorus not requiring exploration there is still a field for clamps.

CONCLUSIONS

In summing up I find:

First.—It is generally the opinion of progressive gastric surgeons that callous ulcers of the stomach not located near the pylorus should be excised, and there is a rapidly growing belief that the Rodman operation should be performed more frequently, (a) because the drainage operation does not always cure; (b) because of the large percentage of callous ulcers (26 per cent.) which become cancerous.

Second.—In order to do good ulcer surgery it is necessary to determine the extent and location of the ulceration. This can only be done properly as a rule through an incision in the stomach wall and when clamps are not used.

Third.—The incision should be ample and should usually be made transversely to avoid the vessels, after which step the inside of the stomach should be seen. By the use of deeply placed traction loops the anterior wall of the stomach is lifted, the gas in the stomach comes to the top and escapes when the incision is made, thus relieving the intragastric pressure. The fluid now immediately gravitates to the lower levels of the stomach cavity, from which it may be dipped and sponged with deliberation. After the stomach is thus emptied and the cavity dried, the inspection of the mucous membrane is easy and the mystery and difficulties of stomach surgery vanish; for the surgeon, after opening the omentum above and below the stomach and packing the lesser peritoneal cavity with gauze, proceeds to trim out the diseased portion with the same precision and completeness with which he would amputate a leg for gangrene or remove a breast for cancer.

Fourth.—By the use of traction loops, gastro-enterostomy may be done by the "no-clamp" method just as quickly as with the clamp method, much more directly and accurately, and with less soiling and less danger. Pylorectomy for ulcer or cancer is also done in a more correct surgical manner by using the traction loops than by the use of clamps. Another advantage is that the remaining portion of the stomach may be carefully inspected again after the gauze is removed from its cavity with the view of detecting any disease which may exist.

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ABSTRACT OF DISCUSSION

DR. J. W. DRAPER MAURY, Rochester, Minn.: Many methods have been suggested for the excision of gastric ulcers and the last word remains to be said. This is because the problem is wrapt up in a cancer equation yet to be solved. Sufficient is known, however, to justify the positive statement that any technic which does not insure the freest possible removal beyond the ulcer margin is worthless, because in over 70 per cent. of ulcers the margin is carcinomatous. At St. Mary's hospital we have worked out on animals a method of ulcer excision by a strangulation stitch which under certain conditions has certain advantages over ordinary excision. In the majority of cases it cannot be used to advantage. It is much more rapid than excision; has been free from fatality in experimental work and does away with all hemorrhage and annoying gaping of the wound. It seems to me probable, however, that even the limited use to which we thought it might occasionally be put will probably be still further restricted by the method that Dr. Coffey has just presented.

A stitch consisting of two pentagons, one lying on the mucous surface of the stomach, the other on the serous surface, may easily be applied by a continuous suture. The tissue within the pentagons will be deprived of blood-supply when inversion and tight tying of the stitch occurs. It is obvious that an odd-sided figure must be used in order completely to surround and "scissor" the included tissue. Dr. Selby, by the clever employment of litharge and wire, has prepared a radiograph of a hypothetical ulcer. In this, double strands of the stitch can readily be seen and its constricting action understood.

In from fifty to one hundred hours the gangrenous tissue, including the ulcer, sloughs. Dr. MacCarty has made some studies on the residual tissue which suggest encouraging results.

The essentials in the use of this method are as follows: (1) The use of heavy linen twine which the bare hand cannot break; (2) the placing of the pentagon well beyond the ulcer in normal tissue; (3) the careful suturing of the serosa by Lembert stitches after the pentagon is tied. Without these it will certainly perforate.

DR. W. W. SKINNER, Geneva, N. Y.: Possibly some present heard me describe very briefly at Atlantic City two years ago the operation which has been described so ably to-day. Dr. Zimmer of Rochester, N. Y., and I made use of this method in 1896. The case was one of bullet wound perforating both walls of the stomach. At my suggestion the bullet wound in the anterior wall of the stomach was enlarged and the stomach contents, which consisted of a large supper eaten just before the accident, were removed. The posterior wall of the stomach was pulled through the anterior stomach incision, the bruised posterior area cut out, and the incision enlarged sufficiently to inspect the region behind the stomach, so that we were able to trace the bullet wound through the tail of the pancreas and into the muscular tissues behind. This patient made an admirable recovery. The posterior cut was sewed from the inside of the stomach with three layers of stitches. We used the buttonhole stitch. Since then I have used this operation a number of times in cases of posterior ulcer of the stomach, which I referred to in the discussion two years ago.

The advantages of this operation are very great. In the first place, if you make a vertical incision through the lesser omentum, the exposure of the posterior wall of the stomach is very inadequate; if you make an incision transversely to the line of the body, you cut off important blood and lymphatic supply and nerves. An incision through the anterior wall of the stomach, selecting a place where the blood-vessels are very few, is comparatively free from danger.

A method which I use in some cases is the following: During the first stages of anesthesia a small-sized nasal feeding tube is passed through the nose into the stomach; the stomach is washed out while the anesthesia is going on and the tube is left *in situ;* and then just before opening the stomach this washing is repeated.

During the anesthesia there will be jets of green fluid from the tube, which otherwise would be spilled into the peritoneal cavity. This procedure causes no strangling and no trouble.

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I agree with Dr. Coffey that no clamps are needed. It is sufficient to pull the posterior wall of the stomach through the anterior. That makes a sufficient clamp, and the preliminary washing prevents infection.

When I use clamps, I am accustomed to make use of very small and simple ones. I refer to the ordinary little pine tongue-depressors that are sold by the thousand. They make a most admirable clamp, if thoroughly steamed, boiled or otherwise sterilized. The trouble with the steel clamp is that it exerts a constant and increasing pressure, whereas the little pine pieces (of which I use four tied with catgut) exert a uniform flat pressure throughout the operation.

DR. E. WYLLYS ANDREWS, Chicago: If we are about to return to the direct surgical treatment of gastric ulcer, which was so nearly supplanted in routine practice by the general adoption of gastro-enterostomy, it would be well for us to remember certain advantages and certain disadvantages of this direct method of operating. As to the advantages, those who have not tried direct opening of the stomach are not aware of the great ease and safety with which that organ can be laid widely open and its whole interior exposed. No clamps are necessary, the field can be amply protected by sponges, and the stoma h can be drawn entirely out and lie on the anterior abdominal wall. The incision can be made vertically between two of the large superficial branches of the vessels running on the greater curvature, and made bloodless and as long as we wish it; that is, the length of the incision may be made the whole width of the stomach. With such an opening one can explore nearly the whole interior of the stomach and can close it again quickly and safely.

Long-continued experimentation on animals, as well as many successive operations on the human stomach, have led me to lose all fear of this procedure as one step in necessary technic.

If the pendulum is going to swing in the direction of this kind of work again, one must mention among the disadvantages that certain parts of the stomach cannot easily be inspected. At least 6 per cent. of the peptic ulcers lie near the cardia and that portion of the stomach cannot be drawn out or seen except by means of a glow lamp or reflected light. Ulcers near the pylorus cannot be drawn out or treated surgically, unless by a Rodman excision, or as Kocher and some others did, by pyloroplasty directly through the pylorus. In bleeding ulcer, or a peptic ulcer not bleeding, one perhaps causing obstruction, Finney's operation is more radical and effective than pyloroplasty. A further problem and drawback to this kind of work is the puzzle of what to do after finding the ulcer. The ulcer may be excised and the wound sutured; the vessel if bleeding may be ligated inside or outside the stomach wall, or at the bottom of the ulcer; the ulcer may be treated by the hot cautery point and some bleeding vessels thus checked; or the ulcer may be ligated by lifting a cone of stomach tissue from the inner aspect. But this is somewhat unsatisfactory and dangerous, unless protected by an outside row of stitches. After having solved the problem of opening and finding the ulcer, which of itself is not always easy, with all the proposed and tried methods of dealing directly with ulcer, none of them as yet has seemed to be ideal.

DR. CHARLES H. MAYO, Rochester, Minn.: In something over 1,100 gastro-enterostomies performed at our clinic, we have encountered about every kind of complication. We have had nothing serious in the line of operative injury that Dr. Coffey speaks of, and yet we have had to reopen wounds on account of hemorrhage in the line of union, or the suture line, from the stomach to the intestine. We have also had to reopen because of hemorrhage from the ulcer, and we have had deaths occur following hemorrhage from the ulcer, and from perforation, although in the old days we were taught to believe that ulcer was cured and all hemorrhage would cease the moment gastro-enterostomy was performed. But we all know that gastro-enterostomy is merely a drainage operation and does not have a healing action on the ulcer. With drainage unobstructed, the ulcer may get well, but merely because a patient stops bleeding from an ulcer, or the pain ceases, is no sign that the ulcer has healed.

An excavating ulcer does not become cured unless excised or unless Nature cures it by a perforation. When Nature perforates an ulcer, all the coats are brought together and up to that point it is not a recurring ulcer but the same ulcer. The point is merely that it dips in a little deeper or spreads wider. Maury has devised a stitch which can be used on deep ulcers and to control hemorrhage, which has been used experimentally on animals, and we have used it on the human subject in a few instances, apparently with great benefit.

The question of whether or not we should use clamps is a point of technic. We much prefer to use steel clamps occasionally. One cannot otherwise always get a stomach up as it is necessary to do to carry out the technic presented by Dr. Coffey in his excellent paper.

In the treatment of ulcers we should recognize and overcome the danger of hemorrhage and recognize the possibility of the subsequent development of cancer, since ulcers of the stomach are liable to precede carcinomatous conditions.

Ulcers in the duodenum, embracing nearly two-thirds of all the ulcers in this region, are fortunately not prone to become carcinomatous. Very few operators, in a lifetime of surgery, will ever see a primary cancer of the duodenum, except at the ampulla, where the intestine is opened in excising the carcinoma; but it really does not belong primarily to the duodenum; therefore circular sutures may be used on an ulcer in that location to depress it, if the tissue resistance is such that it can be depressed, and protecting sutures can be placed over the point of inversion.

This operation is a serious one if there is but little acid in the stomach. Often the stomach acid content is very low, and patients succumb to sepsis.

DR. A. J. OCHSNER, Chicago: Severe, dangerous hemorrhage has occurred so seldom after the application of ordinary pressure clamps in the operation of gastro-enterostomy that I believe when it does occur it is because of the softened condition of the tissues in the vicinity of the ulcer. If the clamp is applied within a relatively short distance from the ulcer, I believe that the accident which happened in this case is not only possible but likely to occur. Ordinarily that is not necessary. The anastomosis should always be made at the lowest point of the stomach, as shown us many years ago by W. J. Mayo; and when that is done, I believe that one can safely apply the pressure-clamp without the danger of hemorrhage. I have seen two or three cases of hemorrhage in instances in which the sutures were not as perfectly applied as they should have been, at the junction of the gastro-epiploic vessels with the wound. But the danger of which Dr. Coffey speaks I believe is one which occurs only rarely and which should be avoided. In cases in which one cannot make the anastomosis at a considerable distance from the ulcer, one should perform the operation which Dr. Coffey has shown us. All of the facts which Dr. Coffey has illustrated here I have personally experienced. The fear of soiling and of hemorrhage during the operation really amount to very little, if the operation is performed as described by Dr. Coffey.

Many years ago, while I was Professor Senn's assistant, he made this identical operation. Since that time I have performed this operation by applying very delicately toothed forceps to the blood-vessels at the margin, grasping all of the layers of the intestinal wall, that is, the mucous layer, the muscular layer and the serous layer, and placing these clamps at regular intervals.

As regards the pentagonal stitch that Dr. Maury has shown us, the difficulty about that stitch in practical application is this: It works beautifully in the stomach of the dog, and undoubtedly would work beautifully in the normal human stomach. Since Dr. Maury has introduced this stitch I have not had a case in the human being in which it seemed as though it would work. Where the ulcer is small it is not necessary, and where the ulcer is large you would have to fold in so large a portion of the stomach wall that the covering would be very much more difficult and much more prone to cause a troublesome deformity which might ultimately result in obstruction, than would simply excising the ulcer and making the suture as done in Dr. Coffey's cases.

Regarding the operation that Dr. Skinner has described, I wish to state that in 1891 Dr. Charles T. Parks described this very operation and performed it in a case of gunshot wound through both the anterior and posterior walls of the stomach.

Speaking of approaching the posterior wall of the stomach, the best way, if the anterior wall is punctured by a small perforation, which is very commonly the case in gunshot wounds, is to lift up the transverse colon and split the transverse mesocolon precisely as one does in posterior gastro-enterostomy, which is a much more simple operation than the one that has been described. Then drain through the lesser omentum, and you still have perfect drainage.

DR. ROBERT T. COFFEY, Portland, Ore.: The technic of sewing is the same as that used when we use clamps. The principle that I wished to bring out was the method of lifting up the front wall of the stomach with traction loops, thereby making an air bubble which escapes when the stomach wall is incised and relieves intragastric tension; the fluid then gravitates to the lower levels and may be dipped or sponged out without spilling, and much more perfectly than when clamps are used or by the freehand methods which previously have been described. Danger from the spilling of fluid contents is not great, but it is annoying to an esthetic operator, and it can be avoided providing you lift the parts up as shown. That is the principal point. As to describing the technic of removing the ulcer, that is not intended to be a major part of the paper at all. It is simply a matter of so cleansing the stomach that we can go ahead and do any operation which seems advisable on the stomach with just as much ease and care and just as much nicety as we can amputate a leg. Besides using the traction loops for holding the stomach while cleansing, I have used them to strengthen greatly the line of suture and facilitate the turning of peritoneal surfaces.

Dr. Andrews stated that it was impossible to see ulcers of the cardia. It is not impossible, if you will make an incision at right angles to the median incision following the rib arch on the left side. You will find that you can very easily inspect the entire stomach from the inside, and I have done so in two cases in which the ulcer was located very close to the esophagus. It also is possible to inspect the pyloric section after the stomach is wide open. I hoped to learn from the discussion how frequently hemorrhage resulting from pressure of clamps had occurred, and I am surprised but glad to learn that it does not occur in the experience of anyone else. In the case described the vessel was open where it crossed the slit which had been made by the clamp; furthermore, there had been no hemorrhage either from the original ulcer or the site of operation. The anastomosis was made at the lowest point of the stomach and was more than 4 inches from the ulcer, thus avoiding the criticism of Dr. Oschner. The fact remains, however, that if anyone desires to investigate the result of clamps on the mucous membrane he will be surprised to note that it is broken or slit in a very large percentage of cases. It would be surprising if there have not been more serious hemorrhages resulting from clamp pressure than is indicated by the discussion to-day. I have done many hundreds of experimental anastomoses in addition to my clinical work. Most of my experimental anastomoses have been done by the various free-hand and traction-loop methods with a view to learning to sew skilfully, but, like Dr. Mayo, I have not heretofore done any clinical work without clamps. By the technic here described, however, I have been able to do even more satisfactory work in excisions of ulcers and in doing pylorectomy for carcinoma than I have been able to do with the clamps, leaving out the possible danger from clamp pressure. It is unquestionably cleaner, more thorough and more surgical. The gastro-enterostomy described is, as will be noted, a sequel or part of the gastrectomy and is used after the stomach has been emptied of its contents. The traction loops when tied unquestionably add material strength to the union. I am not prepared to advise the discarding of clamps in cases of simple gastro-enterostomy for simple unquestionable pyloric or duodenal obstructive ulcers when there is no call for exploration. This, however, is the only field, it seems to me, in which clamps can be used to advantage.

SMOOTH ATROPHY OF THE TONGUE*

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For many years the occurrence of smooth atrophy of the base of the tongue in cases of syphilis was handed down as a tradition in Virchow's laboratory in Berlin and from this source chiefly the first knowledge of the condition was disseminated.

Since the publication of Lewin and Heller,[1] however, in 1894, comparatively little has been written about smooth atrophy of the base of the tongue in reference to its diagnostic value in syphilis. In their series of 6,583 cases which came to autopsy in the Charité Hospital in Berlin, 200 presented a history of syphilis, 156 acquired and forty-four congenital. Of these, eighty-five cases of acquired syphilis showed no smooth atrophy. One hundred and three cases presented smooth atrophy of the base of the tongue and of these, seventy-one (69 per cent.) have a definite syphilitic history. Thus, in 45 per cent. of cases of acquired syphilis smooth atrophy was found to occur.

Symmers (1910),[2] in 623 cases, found seventy-five in which there had been a distinct history of syphilis, and in sixty-four (84 per cent.) of these, smooth atrophy of the base of the tongue was noted, fifty-five complete and nine partial. In three of his syphilitic cases the lymphoid follicles at the base of the tongue were hyperplastic.

In this institute, smooth atrophy of the base of the tongue has been looked for as a routine and its occurrence noted fairly frequently. In 1909, out of 505 autopsies, it was found in thirty-nine cases (twenty-five male and fourteen female). In all of these the condition was quite definite, all doubtful cases in which atrophy was only slight or moderate being excluded. In three, however, it was only partial, but in the affected portions was quite distinctive.

The accompanying tables indicate the class of case in which this condition of smooth atrophy was found, and its relationship to syphilis.

TABLE 1.—SMOOTH ATROPHY OF THE BASE OF THE TONGUE, BUT NO HISTORY OR SIGNS OF SYPHILIS AND WITH A GOOD FAMILY RECORD

Case.	Sex.	Age.	Cause of Death.
1	M.	66	Acute yellow atrophy of the liver.
2	M.	65	Cancer of rectum.
3	M.	29	Phthisis.
4	M.	60	Pneumonia, pericarditis, advanced general arteriosclerosis.
5	M.	51	Phthisis and acute suppurative peritonitis.
6	M.	74	Pneumonia.
7	M.	50	Cirrhosis of the liver with primary cancer.
8	M.	59	Cerebral softening and senile atrophy.
9	F.	62	Gangrene of lung following operation on hemorrhoids.
10	F.	28	Disseminated sclerosis.
11	F.	54	Senile atrophy general.
12	F.	65	Nephritis.
13	F.	40	Carcinoma of uterus.
14	F.	62	Pemphigus.

TABLE 2.—SMOOTH ATROPHY OF THE BASE OF THE TONGUE WITH NO SIGNS OF SYPHILIS. HISTORY OF SYPHILIS DENIED, BUT POSSIBLY MAY HAVE OCCURRED

Case.	Sex.	Age.	Cause of Death.
1	M.	47	Pneumococcal pericarditis (gonorrhea several times).
2	M.	55	Cirrhosis of the liver (chronic laryngitis, not tuberculous, possibly syphilitic).
3	F.	77	Cancer of the cecum (5 children, all died young; had 1 miscarriage).

* From the Russell Sage Institute of Pathology.

1. Lewin and Heller: Die glatte Atrophie der Zungenwurzel und ihr Verhältniss zur Syphilis, Virchow's Arch. f. path. Anat., 1894, cxxxviii, 1.

2. Symmers: Smooth Atrophy of Base of the Tongue, Am. Jour. of Med. Sc., 1910, cxl, 859.

TABLE 3.—SMOOTH ATROPHY OF THE BASE OF THE TONGUE NO SIGNS OF SYPHILIS. HISTORY OF SYPHILIS NOT KNOWN

Case.	Sex.	Age.	Cause of Death.
1	M.	77	Senile atrophy and general arteriosclerosis.
2	M.	60	Senile atrophy and general arteriosclerosis with terminal acute cystitis.
3	M.	78	Nephritis.
4	M.	47	Appendicitis (also had mitral stenosis).
5	M.	63	Phthisis, intestinal tuberculosis (no laryngitis).
6	M.	64	Phthisis; intestinal tuberculosis, chronic tuberculous laryngitis; tabes mesenterica.
7	M.	80	Infarction of heart; general arteriosclerosis.
8	F.	65	Tuberculous peritonitis and acute miliary tuberculosis (few small ulcers in the upper part of esophagus, but no laryngitis).

TABLE 4.—SMOOTH ATROPHY OF THE BASE OF THE TONGUE WITH A DEFINITE HISTORY AND SIGNS OF SYPHILIS

Case.	Sex.	Age.	Pathology.
1	M.	36	Sacculated aneurysm, arch of the aorta (rupture into right pleura).
2	M.	40	Syphilitic ulcer of face (death from general septicemia).
3	M.	65	Syphilitic scarring of liver (death from empyema).
4	M.	60	Syphilitic scarring of liver and skin (death from nephritis).
5	M.	43	Tabes dorsalis.
6	M.	63	Tabes dorsalis.
7	M.	58	Tabes dorsalis; also syphilitic scarring of the liver.
8	M.	45	General paresis.
9	F.	27	Syphilitic ulcer of perineum, chronic syphilitic laryngitis and pharyngitis; also scars in liver (died of purulent cystitis and pyonephrosis).
10	F.	46	Old syphilitic skin lesions (nephritis case).
11	F.	53	Old syphilitic skin lesions (cerebral softening, nephritis case).
12	F.	36	Syphilitic scarring of the liver and skin (death from nephritis).
13	F.	54	Saber tibiæ and syphilitic scarring of the liver (gumma of brain).
14	F.	45	Syphilitic ulceration of the nasal cartilages, syphilitic laryngitis (death from liver cirrhosis).

TABLE 5.—CASES PRESENTING MANIFESTATIONS OF SYPHILIS, BUT NO SMOOTH ATROPHY OF THE BASE OF THE TONGUE

1. Old syphilitic skin lesions:

Case.	Sex.	Age.	Cause of Death.
1	M.	40	Acute endocarditis.
2	M.	59	Cerebral thrombosis and softening.
3	M.	49	Chronic cardiac dilatation and chronic arthritis.
4	M.	65	Pneumonia and pericarditis.
5	F.	53	Cerebral thrombosis and softening and nephritis.
6	F.	92	Pneumonia.

2. (a) Aneurysm of aorta—sacculated:

1	M.	53	Cardiac failure.
2	M.	59	Rupture into pericardium.
3	M.	45	Rupture into superior vena cava.
4	F.	57	Abdominal, dissecting, rupture into right pleura.

(b) Aneurysm of aortic arch fusiform. Three cases (no aortic incompetence): One denied syphilis but presented numerous syphilitic scars on the legs and abdomen. The other two admitted syphilis but showed no other signs than very extensive arteriosclerosis.

3. Tabes dorsalis and old syphilitic skin lesions:

1	M.	59	
2	M.	42	Tabes dorsalis.
3	F.	44	Tabes dorsalis; syphilitic scarring of the liver; syphilitic pulmonary fibrosis.

4. Syphilitic pulmonary fibrosis:

1	M.	77

5. Syphilitic scars in the liver (pneumonia case):

1	F.	56

6. Syphilitic scars in liver and skin, syphilitic laryngitis and ulceration of the pharynx with disappearance of the uvula (died of liver cirrhosis):

1	F.	47

7. Saber tibiæ—(old chronic cardiac dilatation case):

1	M.	60

8. Syphilitic aortitis, rupture of aortic cusps:

1	M.	37

Total..... 21

As a summary of these thirty-nine cases it may be seen that they occured at all ages between 27 and 80. Age alone does not produce this condition, as subjects of 90 years or over do not show it. In fourteen there was typical smooth atrophy with a negative history and no signs of syphilis. In fourteen it existed in cases presenting definite evidences of syphilis. In twenty-one syphilitic cases, however, there was no apparent abnormality of the base of the tongue. These numbers are of course too small to form any statistics, yet they correspond practically to the experience of past years in this laboratory.

In cases of active syphilis there seems commonly to be a hyperplasia of the lymphoid tissue at the base of the tongue, as in the following three cases:

CASE 1.—Male, aged 42; syphilis at age of 25; syphilitic ulcers of the skin and scars in the liver, and syphilitic ulcer of the aortic arch which had eroded into the trachea and through which a fatal hemorrhage had occurred. The heart weighed 300 gm.; spleen 150 gm.; no chronic nephritis; slight general lymphatic glandular enlargement had occurred. The lymphoid tissue at the base of the tongue was considerably hyperplastic.

CASE 2.—Male, aged 27; syphilis eighteen months previous to date of death. Patient died very suddenly, apparently from asphyxia; larynx almost completely stenosed by syphilitic granulations; epiglottis and uvula destroyed by ulceration; extensive chronic skin lesions of syphilis and several gummata in the liver; syphilitic aortitis; heart weighed 250 gm.; spleen 215 gm.; no chronic nephritis. There was slight general lymphatic gland enlargement and considerable hyperplasia of the lymphoid tissue at the base of the tongue.

Fig. 1.—Section of the base of the tongue, showing extensive lymphoid hyperplasia of the lymph structures under the epithelium.

CASE 3.—Male, aged 39; syphilis twelve months previous to date of death. Patient died of chronic cardiac dilatation. He had also for several months previous to death a swinging temperature. There were some syphilitic scars on the legs and a persistent sore on the side of the tongue. His blood gave a positive Wassermann reaction before antisyphilitic treatment was commenced. His kidneys showed a marked chronic nephritis and the heart was enormously hypertrophied and dilated (770 gm.). The spleen was somewhat enlarged (525 gm.) and the lymphatic glands all through the body were very considerably swollen. The histologic picture of the blood showed no important change. The lymphoid tissue at the base of the tongue was very markedly hyperplastic, both grossly and microscopically.

In only one of the thirty-nine cases did the appearance warrant an absolutely certain diagnosis of syphilis. In this there was a specially indurative cicatricial char-

acter to the lesion and it was associated with a syphilitic laryngitis. All the other cases simply presented a smooth atrophic appearance of the surface structures of the tongue with disappearance of the papillæ. On microscopic examination the condition seemed to be an atrophy of the lymphoid and other subepithelial elements, so that a thin layer of squamous epithelium extended over an underlying fibrovascular structure, which, unlike the normal surface structures of the base of the tongue, contained no glands or lymphoid follicles.

There seemed to be no cicatrizing process and the subjacent muscle structures were undisturbed. In none was there any perivascular lymphocytosis, endarteritis, or other suggestively syphilitic process to be observed. In the relatively early stages of tertiary syphilis, as already noted, it is common to find a marked general glandular enlargement with also a hyperplastic condition of the lymphoid elements at the base of the tongue. Is this, then, a stage in the process whose final condition is smooth atrophy? No definite transition types were observed, but very probably it may be so, just as the lymph-follicles in the intestine may atrophy after typhoid fever.

Fig. 2.—Smooth atrophy of the base of the tongue.

Fig. 3.—Section of the base of the tongue showing atrophy. The lymphoid tissue has entirely disappeared. (This section was taken from a position similar to Figure 1.)

In conclusion, then, these cases would seem to show that smooth atrophy of the base of the tongue may occur occasionally in other conditions besides syphilis, as, for instance, in certain tuberculous cases and in association with general wasting states. In tuberculosis, for instance, out of twenty-five cases of smooth atrophy of the base of the tongue in which syphilis could not be definitely determined, seven were tuberculous. Only these seven, however, out of 196 tuberculous cases in the same series of 505 autopsies showed the condition.

Of all the disease processes which lead up to the production of smooth atrophy of the base of the tongue syphilis is much the most frequent. In such proportions as in the present series, in which it existed in fourteen out of thirty-six syphilitic cases, the association is significant and at least a guide in clinical diagnosis.

Sixty-Sixth Street and East River.

A CASE OF BRAIN TUMOR

O. T. MANLEY, M.D.
CLEVELAND, OHIO

Patient.—The patient, Leonard H., aged 19, was referred by Dr. R. M. Manley, who made the ocular examination given later in this paper.

History.—The family history was negative. As a nursing baby, he had two convulsions, finished sixth grade in school with good grades, passing regularly. When 14, he was pushed from a moving street car, striking on head, was unconscious 30 minutes; vomited and developed conjunctivitis of right eye, which subsided in two weeks. His health was good for one year, at the end of which time convulsions occurred, and recurred for three years at intervals of from two to four months. During the year following the last convulsion, which occurred April, 1910, his headaches had gradually increased in severity, were almost continuous, and were accompanied by impairment of vision when I first saw him, April 1, 1911. Syphilis was denied. Potassium iodid had been administered but was not tolerated.

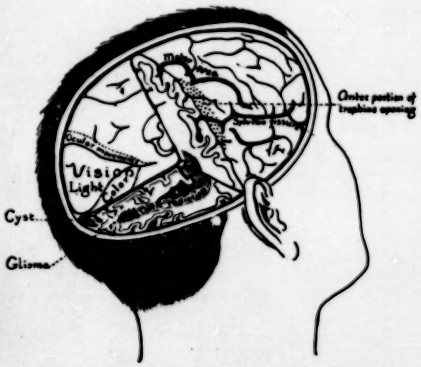

Fig. 1.—Perpendicular and horizontal dissection of right cerebral hemisphere, also showing mesal surface of posterior portion of left hemisphere.

Symptoms.—Headaches, tender area about 3 cm. diameter, on right side of scalp, 5 cm. perpendicular from the median line toward external auditory meatus, and a less tender area 4 cm. posterior to a corresponding point on the opposite side, muscular power of left hand diminished. Homonymous hemianopia (right halves of both retinæ blind). Unilateral hemichromatopsia (temporal half of left retina color blind) with variable vision for color and natural objects, and diminished acuity for light. Left pupil slightly larger than right. Pupillary reaction to light diminished on blind side with left pupil less active than right. He carried his head rotated to the left or his eyes to the left. Double choked disks and hemorrhagic retinitis. R. B. C. 4,900,000, W. B. C. 18,000, hemaglobin 90 per cent. Pulse 104, temperature and respiration

V. 57
1911

normal. Motor, sensory, deep reflexes, coordination and urinary examination and other physical examination negative.

Diagnosis.—1. Increased intracranial pressure. 2. Central lesion, involving right optic radiation or visual center, probably extending toward thalmus, and possibly originating in parietal lobe toward the tender area on the right side.

Prognosis.—Unless the course was interrupted, prognosis was continuous and increasing headaches with total loss of vision and mental activity resulting in death.

Operation.—To relieve the pressure by a decompression trephining or to discover that its cause might permit of a successful removal, I opened the cranial cavity by a two stage osteoplastic flap operation, including the tender area on the right side in the upper anterior angle. At St. Alexis Hospital, April 3, I resected the bone and replaced the flap; April 10 I turned back the flap and opened the dura which was bulging, with no pulsation. The brain presented through the incision and required pressure to prevent its escape, as the dural opening was enlarged. There were irregular areas of dusky red and darker areas apparently degenerative covering the lower two-thirds of the exposed surface and infiltrating

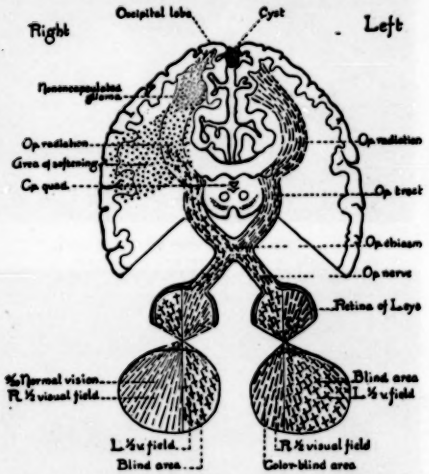

Fig. 2.—Horizontal cross-section of cerebral hemispheres.

into the normal brain tissue toward the median line. The bone was removed and the opening in the skull enlarged downward and backward to allow protrusion of the brain without injury, and closure of the skin flap with less pressure. A needle was carefully introduced toward the posterior horn of the lateral ventricle to a depth of 3.5 cm. but no fluid was found. A section was removed for microscopic examination and scalp incision closed. Dr. Schumacher reported this section to consist of normal brain tissue with areas of pressure necrosis.

Postoperative Condition.—First twenty-four hours: General condition good, conscious in thirty minutes, no shock, paralysis, headache or vomiting.

Second day: Partial paralysis of left hand and wrist, nystagmus (eyes rotate to left slowly and jerk to right). Pupillary reaction to light improved in both eyes.

Third day: Vision in the right half visual fields improved. General condition improved, excepting paralysis of left hand, which was more pronounced. No nystagmus.

Fourth day: General condition improved, walked to chair with assistance, slight discharge of cerebrospinal fluid.

Fifth day: Free discharge of cerebrospinal fluid.

Sixth day: Removed from hospital to home; condition good; no vomiting or headaches.

Second and third weeks: Free discharge of fluid but gradual enlargement of cerebral hernia, with progressive paralysis of left leg. No change of vision; was in chair; appetite good; temperature had been practically normal, pulse ranging from 72 to 90 and respiration 18 to 20, since the operation and continued so until the evening of the 17th day, or April 26, when vomiting occurred and pulse became rapid (120). Both subsided the next day but recurred April 29, after which time the discharging fluid was bloody. Death occurred May 2 in coma.

Ocular Examinations by Dr. R. M. Manley.—March 16, 1911, complains of poor vision, diplopia, and pain in the head. Lids and conjunctivæ normal; tension normal; no pain. Right pupil reacts to light and accommodation; left reacts feebly if at all. Left pupil contracts when cone to light is thrown into right eye; media clear; optic neuritis both sides with hemorrhages into retinæ; veins dark and enlarged both sides; right eye vision equals three-sixths, left eye vision equals two-sixths; esophoria varying from 12 degrees to 20 degrees.

March 30, 1911, homonymous hemianopia; right eye vision equals two-sixths, left eye vision equals one-sixth; both optic neuritis and hemorrhage increasing; urinary examination negative.

April 24, 1911, postoperative examination shows optic neuritis diminished; hemianopia remaining; right retina pale, veins small, very little hemorrhage remaining; left retina

Fig. 3

Fig. 4

Fig. 3.—Patient with brain tumor from photograph taken April 21, 1911.

Fig. 4.—Photograph in which x indicates tender area. Taken April 21, 1911, before operation.

veins dark and larger than right, some hemorrhage; right, vision much improved; left, vision very much improved.

Autopsy.—Autopsy was permitted only through the trephine opening which was 6½ by 8 cm. All the parietal portion beneath and posterior to the opening was softened and degenerated to a pulpy consistency, and offered little resistance to pressure. This was carefully removed and consisted of particles of apparently degenerated brain tissue mixed with bloody débris. A firm substance about the size of a goose egg was palpated in the posterior portion of the right side of the cranial cavity which was partly adherent to the falx cerebri; on removal, this proved to be the right occipital lobe with a cyst attached to the posterior portion of the calcarine fissure. The center and the anterior portion consisted of a non-encapsulated cheesy-looking substance which filled the space belonging to the optic radiation fibers; this was quite firm and in it could be detected small hard particles feeling like small spicules or minute calcified areas. On microscopic examination, this mass proved to be a glioma.

Pathologic Examination by Dr. Josephine Danforth.—Diagnosis: Infiltrating glioma of brain with calcareous deposits and cystic and degenerative changes.

Macroscopic: Specimen received for examination consists of:

1. A portion of the occipital lobe of the cerebrum which contains on its dissected surface an infiltrating growth about the size of a walnut with a cyst of the arachnoid on the external surface which corresponds to the mesal surface of the occipital lobe. This growth is soft in consistency, central portion disintegrating, greyish in color, and contains a few small spicules of bony substance.

2. A considerable amount of soft degenerated tissues.

3. Two small pieces of brain tissue removed with the degenerated tissue.

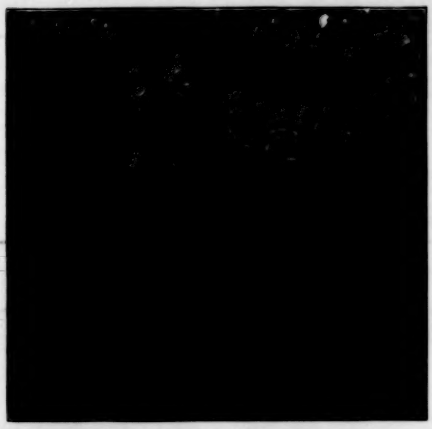

Fig. 5.—Glia cells.

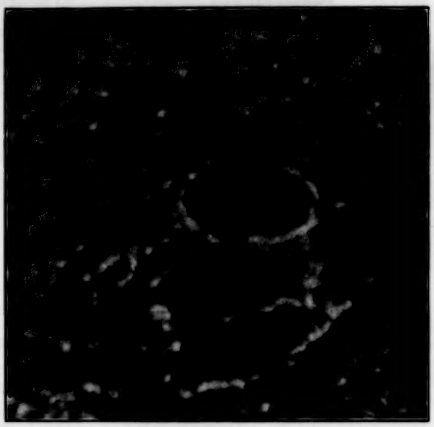

Fig. 7.—Calcareous deposits.

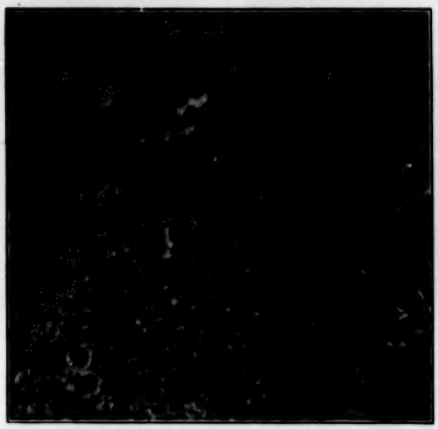

Fig. 6.—Calcareous concretions.

Fig. 8.—Normal brain tissue.

Microscopic: 1. (*a*) Tumor: Slides show masses of small cells having a distinct round or oval nucleus which fills most of the cell body. Many of these cells show distinct processes drawn out in fibrils which, interlacing, form a felt-like stroma. These are the glia cells (Fig. 5). Other portions of the slides show:

I. Areas of marked degeneration of all cellular structures, infiltrated with polynuclear leukocytes.

II. Areas composed of capillary blood-vessels filled with red blood-cells and leukocytes and having extremely thin walls.

III. Areas containing small blood-vessels, with considerably thickened walls.

IV. Portions of the tissue containing whorls and plates of calcareous concretions (Fig. 6).

(*b*) Cyst: Contents of cyst 2 c.c. of serous fluid tinged with blood, containing a few polynuclear leukocytes, a number of mononuclear cells and cocci in pairs. No tubercle bacilli were found.

2. Degenerated material: (*a*) Smears show many polynuclear leukocytes, many large and small mononuclear cells, large cells having large round or oval nuclei and distinct protoplasmic processes, i. e., nerve cells, and many cocci in pairs and in short chains. No tubercle bacilli were found.

(*b*) Slides show cellular destruction, infiltration with polynuclear leukocytes and red blood-cells, deposits of calcareous material (Fig. 7).

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3. Loosened brain tissue: Slides show nerve cells and neuroglia of the cerebrum (Fig. 8).

Summary.—1. The glioma involving the optic radiation on the right side explains the homonymous hemianopsia.

2. The extensive softening and gliomatous infiltration in the region of the right thalamus explain diminished pupillary reflexes on the blind side, inequality and varied reactions of pupils.

3. The cyst was in a position to make direct pressure on the color center of the left occipital lobe and, since the symptoms developed in the order in which color, natural objects, and light centers are arranged, this pressure (since it affected the visual centers of the temporal half of the left retina more than those of the nasal half of the right retina) could explain the unilateral hemichromatopia, providing the falx cerebri would allow transmission of such pressure.

4. The increased intracranial pressure explains the choked disks, hemorrhagic retinitis and headaches.

5. The calcareous deposits suggest slow development.

6. The postoperative paralysis of the left side was caused by pressure of motor area on edge of trephine opening.

7. Post-mortem changes, or contamination at time of autopsy, could explain the presence of micro-organisms in pathologic specimens, since there had been no indication of infection.

8. Death was undoubtedly due to the extension of degenerative changes to the larger blood-vessels in the brain.

ENDEMIC MALTA (MEDITERRANEAN) FEVER IN TEXAS

FURTHER NOTES ON ITS DISTRIBUTION AND PROBABLE SOURCE WITH REPORT OF ADDITIONAL CASES THIRD PAPER

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AND
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At the time of our previous communication[1] on Malta (Mediterranean) fever in Texas, in which we reported the isolation of the *Micrococcus melitensis* from two patients ill of continued fever, it was known to us that other cases existed in the vicinity of Langtry, Texas, and it seemed highly probable that the disease had a much wider distribution.

The recent work of the British Mediterranean Fever Commission[2] has conclusively shown that in the Island of Malta Mediterranean fever is almost entirely contracted through drinking the milk of infected goats. All the cases observed by us had given a history of drinking goat's milk or of being actively engaged in the goat-raising industry. In view of these facts, it was decided to make some study of continued fevers in the principal goat-raising sections of the state, to ascertain, if possible, whether some of the cases diagnosed as atypical typhoid fever might not be cases of infection with the *Micrococcus melitensis*.

From Langtry, where the field laboratory was located, visits were made east and west, through the principal goat-raising sections of the state, embracing an area approximately 300 miles along the Rio Grande and extending 90 miles to the north, including the Nueces and lower Pecos River countries. This section of the border is covered with ranges of low undulating hills, traversed by many rocky cañons, arid and barren for the most part and covered with a desert vegetation. For the past thirty-five years the raising of goats has been the most important, and indeed, in some places, the only industry of the inhabitants.

Careful inquiries through this section elicited the information that for many years there has existed, principally in the Nueces and lower Pecos River countries, a continued fever characterized by frequent relapses, pains in the joints and a very low mortality. This fever has been known to exist in Edwards county, at the head of the Nueces River, for a period of at least twenty-five years. It has been known there as slow fever, continued fever and, occasionally, by the significant term of goat fever.

During the summer of 1894 there occurred in the practice or under the observation of Dr. Robertson of Rock Springs about twenty-five cases of continued fever in the Nueces River cañon. The disease ran through whole families and occurred almost entirely in families that had goat pens immediately surrounding the houses. In many of the cases the fever ran for several months, with frequent relapses. Joint symptoms occurred in many instances and often the patients were not able to walk for several weeks. Dr. Robertson was unable definitely to determine the nature of the fever, but believed that he was dealing with a fever different in many respects from typhoid. Since that time he has each year treated a few patients with an affection which he recognized as a fever of similar type.

More recently Drs. Eads and Rogers of Barksdale have treated patients each year with cases of continued fever, in which the symptoms did not correspond clinically to those of typhoid fever. This report includes two cases which occurred in their practice during the present summer.

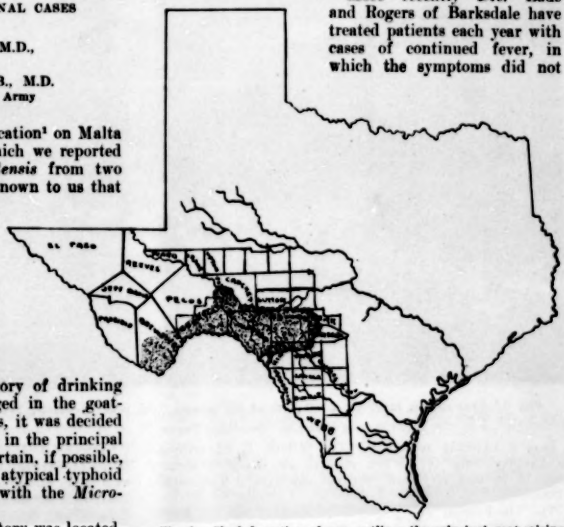

Fig. 1.—Shaded portion of map outlines the principal goat-raising section of Texas, and also represents the area of endemic Malta (Mediterranean) fever.

Many people have believed that the disease was in some manner contracted from goats and occasionally have applied to it the term "goat fever." It has also been called "dust fever," on the theory that it came from

1. THE JOURNAL A. M. A., Sept. 9, 1911, p. 889.
2. Reports of British Mediterranean Fever Commission, 1905-7.

working in dusty goat pens. Since the disease is more prevalent during the months of May, June and July, when the prevailing wind is from the south, some of the goat-herders have located their goat pens on the north side of their houses to avoid the dust. The Mexican goat-herders have long believed that slow fever was due to drinking unboiled goat's milk and for this reason, and also because it improves the taste, practically all Mexicans drink only milk which has been boiled.

It is thought that the disease appeared in the Pecos River country about ten years ago, and it has been known there as slow fever or Rio Grande fever. Owing to the fact that the country is very sparsely settled in that locality the disease has failed to attract much attention, but it is certain that a few cases have occurred there each year for several years past.

The following cases of infection with the *Micrococcus melitensis* were found at Langtry, Barksdale and Rock Springs:

Blood-examination, July 25:

White blood-cells, 6,400.

Hemoglobin, 75 per cent.

Differential count, per cent. (500 cells):

Polymorphonuclear neutrophils	45.
Small mononuclears	47.6
Large mononuclears	4.4
Transitionals	2.2
Eosinophils	.8
Mastzellen	.0
Nucleated reds	.0
Parasites	.0

Centrifugalized specimens of urine were plated out several times on glucose-nutrose-litmus-agar, but no colonies of *M. melitensis* were found.

Case 3 (Also previously reported[3]).—The patient, K. E., has had no subsequent relapse and is feeling well.

Case 4.—On July 20 a second agglutination test on Patient 4, R. E.,[3] with *M. melitensis* gave positive agglutination at dilution of 1/160 in thirty minutes. Normal control 1/40, and *B. typhosus* 1/40, negative in one hour.

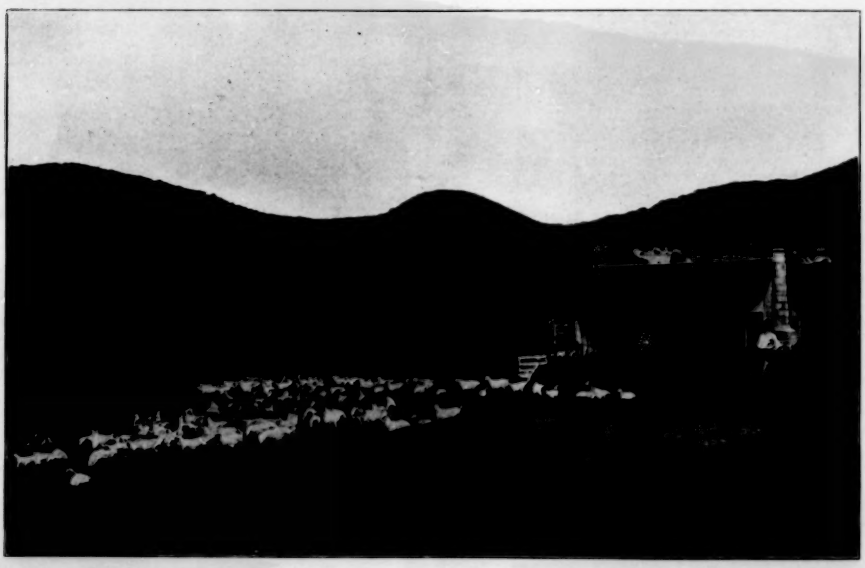

Fig. 2.—Typical goat ranch on a tributary of the Nueces river, near Barksdale, Texas, showing dusty bedding-ground of goats in front of the ranch house.

Case 2 (Already reported[3]).—The patient, L. E., returned to Langtry July 10. When seen at the army laboratory July 14 he was very pale, but not emaciated; temperature normal.

The blood-serum July 19 gave a positive test of *Micrococcus melitensis* in dilution of 1/100 in fifteen minutes.

July 21 the patient relapsed for the fourth time with a temperature of 103 F. He complained of pain in left shoulder, headache, earache, loss of appetite, obstinate constipation and abdominal distention. The fever gradually decreased and the temperature became normal again July 26. No relapse since and patient appears well.

3. THE JOURNAL A. M. A., Aug. 26, 1911, p. 730. Cases 1 to 5 were reported in this first paper and the detailed histories will not be repeated. Case 6 was reported in THE JOURNAL Sept. 9, 1911, p. 885.

Case 7.—J. E., Langtry, Texas, aged 55, goat ranchman, father of Patients 1, 2 and 3, 4 and 5 had "typhoid-pneumonia" at 5 years of age, and malaria at 21. He became ill June 20, 1911, with headache, pains in bones, epigastric tenderness, pains in neck and back; some cough and slight amount of thick, glairy sputum; temperature ranged from 98.6 to 99 F. in the morning to 101 to 102 F. in the evening for about two weeks; returned to normal July 5; severe pains in right shoulder during second week of disease; bowels constipated; appetite good.

The patient had no relapses and did not go to bed during the course of the fever.

July 19 agglutination test was positive with *M. melitensis* at dilution of 1/50 in thirty minutes.

Case 8.—The patient, J. I., Langtry, Texas, aged 21, was a goat-herder. Father and brother suffered with similar symp-

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toms at about the same time. They had fever for several months with frequent relapses and joint pains. Patient became ill in April, 1909, with headache, chilly sensation, and pains in back of the neck; went to bed after fifteen days of fever. Temperature ranged from 101 to 103 F., with evening rise and morning remissions, and with profuse sweating at night. Patient had five relapses with an interval of three or four days of normal temperature between them. Fever lasted about two months. In each attack when the temperature began to fall, patient suffered severely with pains in back, hips and shoulders. There was obstinate constipation.

Agglutination test July 19, 1911, two years after attack, gave positive test of *M. melitensis* at dilution of 1-40 in one hour. Controls negative.

CASE 9.—E. B., Langtry, Texas, aged 22, goat-herder, whose brother and father suffered with similar disease during same year, became ill about June 1, 1907, with fever, headache, pains in back of neck and sides. Fever ran an irregular course lasting about two months. At times patient had no fever and would get up and around for several days; suffered with severe pains in shoulders, knees and hips; no pain in wrists and ankles; profuse sweating at night and obstinate constipation.

Agglutination test on July 18, 1911, still gave positive test with *Micrococcus melitensis* at dilution of 1/30 in thirty minutes. Controls negative in one hour.

CASE 10.—The patient, C. G., Rock Springs, Texas, aged 10, was the son of druggist. Adenoids and tonsils were removed at 7 years of age; patient had typhoid fever in 1910; was sick in bed thirty days. Present illness began May 1, 1911, with headache, general aches and pains all over body; profuse perspiration and obstinate constipation with some abdominal distention. Fever began gradually with evening rise and morning remission ranging from 99 to 102 F. Fever ran until May 10. The patient got up May 15, and returned to school a few days later. Relapsed May 30, with mild continuous fever with evening rise and morning remission, often not higher than 99.6 F. in the evening. Temperature became normal five or six times. During the second attack the patient had severe pains in knee, hip and ankle; some pain in left side during last attack; has had no elevation of temperature since July 5. At present looks somewhat anemic, but feels well. Patient has never drunk any goat's milk, but has often played in dusty goat pens.

Agglutination test, positive, with *Micrococcus melitensis* on August 1, at dilution of 1/160 in thirty minutes. Controls negative.

CASE 11.—I. W., Barksdale, Texas, aged 6, had had no disease previously except measles at one year of age. He became ill May 12, 1911, with headache, malaise, stiff neck, evening rise of temperature and some sweating; appetite good; bowels constipated and some abdominal distention. On June 15, the fever rose to 104 F. and remained at 102 to 104 F. for about one week, then declined somewhat and afterward run an irregular course, at times going as high as 102 F. There were general aches and pains all over the body and in the shoulders, hips and knees; some pain in side at times; fever still present. At time of examination (August 2) it was 100 F.; spleen and liver enlarged. Physical examination otherwise negative. The patient was well nourished and not markedly anemic; had never drunk goat's milk, but had played constantly in dusty goat-pens. There is a goat-bedding ground just in front of the house.

Fig. 3.—The Pecos River Cañon, near Langtry. A typical view in the goat-raising country of Texas. For miles on either side of this river the country is rocky, arid and barren, and covered with a desert vegetation.

Agglutination test with *M. melitensis* strongly positive at dilution of 1-150 in thirty minutes. Controls negative.

CASE 12.—B. R. P., aged 32, Barksdale, Texas, goat ranchman, had influenza and bronchopneumonia three years ago; made a good recovery; taken sick May 1, 1911, with malaise, fever, headache and pain in back of neck; felt well in the morning, but very feverish toward evening, when the temperature would rise to 102 to 103 F.; had harsh constant cough and distinct dulness over bases of both lungs; lungs seemed filled up with mucus, and he spat up thick, glairy sputum, which was never blood-tinged. The cough lasted about fifteen days; spleen occasionally palpable; fever lasted until May 15, but returned May 25 and lasted until June 21. The temperature ranged from 100 to 103 F.; bowels were tympanitic and there was some diarrhea. The temperature

fell to normal for about five days, but the fever returned again June 27 and lasted until July 6, ranging from 100 to 102 F. There was normal temperature again for four days. The fever returned July 10 and ran an irregular course since to the time of this report, ranging from normal in the morning to 100 F. in the afternoon. Bowels became very constipated and when moved with castor oil there were occasionally small sloughs of mucous membrane and a few flecks of blood. There was some epigastric tenderness. The spleen and liver were slightly enlarged and tender, and at times the patient complained of pains in the left side of the chest, which were relieved by a mustard plaster; had pain in the right shoulder, hip and elbow, and constant occipital headache. The patient worked constantly with goats and the goats were bedded all around the house.

Agglutination test August 3, 1911, was strongly positive with *Micrococcus melitensis* at dilution of 1/160 in thirty minutes.

Controls were negative.

On September 2 patient still had some fever and had been suffering severely with pains in shoulders, hips and knees.

BACTERIOLOGIC INVESTIGATION ON GOAT HERD WHICH WAS THE PROBABLE SOURCE OF INFECTION AT LANGTRY

In order that the source of infection might be definitely ascertained, if possible, in the cases of Malta fever occurring at Langtry, it was necessary to make a careful examination of the goat herd from which the milk used by Patients 1 to 4 had been obtained. Unfortunately, circumstances prevented this being done in a thorough manner, owing to the fact that at the time of our arrival at Langtry the goat herd was being transported, one-third to New Mexico and the remainder to an inaccessible range thirty miles distant. The herd consisted of about 1,500 goats (divided approximately as follows:

Pure Maltese	100
Spanish and mixed	400
Angora	1,000

Twenty-three female goats were examined with the following results:

Goat.	Serum Dilution.	Result.	Time. Minutes.
1. Maltese	1-20	—	50
2. Maltese	1-20	+	30
	1-40	—	50
3. Spanish	1-20	—	50
4. Angora	1-20	+	30
	1-40	—	50
5. Angora	1-20	+	25
	1-40	+	30
	1-80	—	50
6. Maltese	1-20	—	60
7. Maltese	1-20	+	20
	1-40	—	60
8. Angora	1-20	—	60
9. Angora	1-20	—	60
10. Angora	1-20	—	60
11. Spanish	1-20	—	60
12. Maltese	1-20	+	20
	1-40	—	60
13. Maltese	1-20	+	20
	1-40	—	60
14. Maltese	1-20	—	60
15. Maltese	1-20	—	60
16. Maltese	1-20	—	60
17. Angora	1-20	—	60
18. Maltese	1-20	—	60
19. Angora	1-20	—	60
20. Angora	1-20	—	60
21. Maltese	1-20	—	60
22. Maltese	1-20	+	30
	1-40	—	60
23. Angora	1-20	+	30
	1-30	+	45
	1-40	—	60

Thus eight out of the twenty-three goats (34.7 per cent.) agglutinated the *M. melitensis* completely at a dilution of 1/20, two of the eight going also to 1/30 and one at 1/40 in one hour. The milk of those giving a positive reaction at a dilution of 1/20 was centrifugalized and the sediment plated out on glucose-nutrose-litmus-agar and incubated for four days at 37 C. All plates proved negative for *M. melitensis*.

The Zammit milk agglutination test [4] on the milk of all twenty-three goats was negative in every case.

CONCLUSIONS

1. Malta fever is endemic throughout the older goat-raising sections of Texas.

2. Although typhoid fever is prevalent throughout these sections, we believe that careful serum tests will show that a large proportion of the cases diagnosed as atypical typhoid fever will be found to be suffering from infection with the *M. melitensis*.

3. All cases of Malta fever found have occurred in territory devoted to goat-raising and all patients either gave a history of drinking unboiled goat's milk, or were actively connected with the goat-raising industry.

4. While we have not yet found the *M. melitensis* in the milk of goats, the positive serum test obtained in 34 per cent. of goats examined points strongly to this animal as the source of infection.

A CASE OF SPOROTRICHOSIS

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ERIE, KAN.

Patient.—W. H., a farmer, aged 19, weight 185, height 6 feet 1 inch. Father, aged 56, mother 51, two sisters, 26 and 15 respectively, and one brother 12, living and all in good health. One sister, married, died at the age of 25, cause unknown. Patient never had any previous illness.

Fig. 1.—Initial lesion on hand and the course upward along the back of forearm.

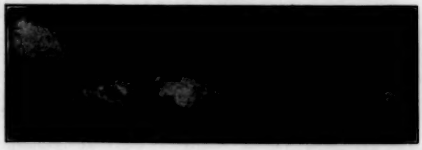

Fig. 2.—The course of infection as it passes toward the ulnar side and around the elbow to the inner and under surface of the arm and up to the axilla.

History.—In the early part of March, this year, patient noticed a small pimple on dorsum of left hand between fourth and fifth metacarpals, 1 inch above metacarpophalangeal joint. This continued to increase in size and was opened with a pin and poulticed.

Course.—March 28, the patient came to my office. The lesion appeared as a ragged, depressed ulcer 1½ inches in length by 1 inch in breadth. Extending upward from this, along the back of the forearm toward the ulnar side, and passing around the elbow to the inner and under surface of the arm and thence up to the axilla, the lymphatic vessels were

4. Zammit: Reports of British Mediterranean Fever Commission, February, 1906, Part 4, p. 98.

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purple and distended, and eighteen or twenty nodules were present along their course, as shown in the accompanying photographs. The vessels were filled with a dark serous fluid, and tension compelled me to make some ten or twelve incisions for drainage. Later they discharged considerable pus. At no time was there pain or rise of temperature.

Treatment.—The usual surgical treatment was employed, with potassium iodid internally. The patient made a slow but uninterrupted recovery, and was discharged July 15.

My friend, Dr. William K. Trimble, pathologist in the School of Medicine, University of Kansas, at Rosedale, corroborated my diagnosis.

REPORTABILITY OF SYPHILIS AND GONORRHEA *

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CAMBRIDGE, MASS.

The action of the California State Board of Health in declaring syphilis and gonorrhea reportable diseases is the most important step in this relation that has, as yet, been taken in this country. In a word, it places these two diseases where they belong. It is the result of a straightforward, logical, scientific point of view, unbiased and untrammeled by any smaller consideration than that of the public health of this great state and is prompted by the conviction that boards of health and physicians are to a large degree responsible for that public health.

It thus adds another powerful factor to public hygiene and is destined to define more clearly the relation between physician and society.

It is certain to stimulate the unthinking practitioner, whose motto is "the way we did twenty years ago is good enough for me," into a realization that there is a sociologic and scientific progress for the medical profession as well as for every other branch of human endeavor; that, as society develops, the relations of its various parts necessarily change and he who will not see the movement will be swallowed up in it.

Do physicians ever stop to consider the difference between the relation of a doctor to the community in which he lives to-day and even so short a time ago as twenty-five years? To suspect a family physician of error would have been as heterodox as to change one's religion. A consultation was called only as a last resort and then the tone of the whole family was pathetically apologetic.

How many physicians can feel to-day that they stand in such relation to many of their clients? We are living in a scientific age; the tendency to question, the desire to know and understand is felt even by the most ignorant classes. It would be an object-lesson could the physicians who give their time in hospitals and clinics hear the keen analysis of their characters and methods which takes place among their patients in the waiting-room.

The research worker may shut himself up in his laboratory and obtain for us precious knowledge, the result of his devotion, labor and sacrifice. But the practitioner who applies this knowledge must remember that he forms part of the great world in which he lives; he cannot hold himself apart as a dispenser of panacea but he must live in the midst of that world swayed by its justice and injustice, its joys and sorrows, and on him is often imposed, as in this instance of venereal disease, the choice between his personal tendencies, the influence of the individuals who make up his closer life and that greater circle of activity which means the greatest good to the greatest number, the maintenance of the nation and the race.

Professor Wolf of Strasburg, moved by one of those impulses which is akin to genius, at the international conference at Berlin in 1897 for the purpose of taking measures against the spread of leprosy, brought to the notice of the assembled scientists the puerility of their cause as compared with a condition endemic in every country and unattacked. He little thought that his utterance would be the impetus to a world-wide movement.

Within two years, in 1899, the first international congress for the purpose of combating venereal disease took place in Brussels. The second followed in 1902. National societies were formed in Belgium, France, Germany, Austria, Denmark and the United States.

A close study of the proceedings and work of these societies shows that, except in England, Norway, Sweden and in Denmark as late as 1906, the only measures taken against the spread of venereal disease was the so-called *réglementation* or compulsory examination of prostitutes. In Germany, France and Austria *réglementation* still obtains, although its advocates acknowledge frankly that the system is inefficient and unreliable. They take refuge in the weak statement that a poor system is better than none.

The first European country to make and consistently carry out laws governing venereal disease was Norway. The syphilization of the army and the rapid and intense spread of the disease among a primitive peasantry caused it to assume the character of a contagious disease, pure and simple, with a very small percentage of infection by sexual contact.[1]

In 1774, '79 and '92 treatment of venereal disease was made compulsory. The point of view having been established that these were not shame diseases made it simpler than elsewhere to develop hygienic measures.

In 1860 a law was passed making hospital treatment compulsory on an order of the sanitary commission and classing them with other infectious diseases.

In 1888 regulation of prostitution was abandoned and sane laws covering hygiene and morals established.[2]

In 1901 still more stringent laws were passed covering isolation and treatment.[3]

Sweden, suffering from the same conditions as Norway, as early as 1817 made the treatment of venereal disease compulsory and at the cost of the state. For

* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Finger: Ztschr. f. Bekämpf. d. Geschlechtskrankh., Leipz., v, part 12. The same condition obtains in Russia to-day, where to 7 per cent. of genital infection 93 per cent. extragenital is found. In fact, there are villages where no inhabitant escapes.

2. In 1888 the laws regulating prostitution in Christiania were rescinded. 1. Examination and treatment were made easily obtainable for those who demanded it. 2. It was made the duty of every physician to endeavor to discover the sources of infection. 3. When necessary cases were reported and isolation in hospitals secured. Free clinics were established and, although there were 5,000 known prostitutes, 20,000 annually received treatment in these free clinics. Möller: Ztschr. f. Bekämpf. d. Geschlechtskrankh., Leipz., v, part 7.

3. Dec. 2, 1901 (after the first congress). It shall be the care of the state:

Sec. 5. To see that the syphilitics be placed in hospitals when found necessary by the sanitary commission.

Sec. 6. Every venereal patient who does not provide himself with proper medical attendance or who fails to follow the physician's orders may be sent by the sanitary commission to the hospital and detained there until cured, or at least the danger of infecting others is materially lessened.

Sec. 7. If syphilitics are allowed to leave the hospital in a condition which is liable to infect others, the board of health must be notified. The patient will be obliged to report himself for examination at stated intervals or present a certificate which shows that he is under the care of a reliable physician. . . .

Sec. 13. If a syphilitic, still in that period of disease in which infectious symptoms might be feared, gives up treatment, physician must notify the health office. Finger: Ztschr. f. Bekämpf. d. Geschlechtskrankh., Leipz., v, part 2.

this purpose a new tax was provided for, called, since 1873, tax for the sick (*Abgabe für Krankenflege*).

Inspectors for the provinces were appointed whose duties were carefully defined by the law.[4] Seved Ribbing is quoted as saying that it had never come to his knowledge that the people of Sweden felt these measures as inimical to personal freedom. On the contrary, the persons who have innocently or ignorantly fallen victims to the disease are thankful to the authorities. *Réglementation* was, however, still in force in Sweden.

In 1903 the Swedish government appointed a committee to deliberate over the legal measures to be taken against prostitution and its social and sanitary evils.

After seven and one-half years of deliberation and investigation it has declared itself against *réglementation*.[5]

Denmark, in 1906, rescinded the law regulating prostitution and substituted sane general laws calculated to reach every side of the evil.[6]

It will thus be seen that under circumstances of public danger these northern countries were able to establish laws both humane and thorough. Compulsory report is demanded but the privacy of the individual is respected as long as he submits himself to proper treatment and observes such rules as prove that he respects the community in which he lives. A glance at the laws in force in Prussia and Austria will show the difference in method.

By an edict of 1835, physicians in Prussia were required to report dangerous cases of syphilis to the police.[7] To a certain extent, at least as far as the power of the police is concerned, these laws are in force to-day.

Harthüng, head physician in a Breslau hospital for venereal disease, made the following statement at the international congress in Brussels, 1902: When he is convinced that his out-patients have sexual intercourse against orders of the physician, or are otherwise dan-

4. Article 28. Measure against venereal disease.

1. If a physician, following the order of the authorities, examines a person supposed to have venereal disease, it is his duty to report to the magistrate the name and address of the patient if said patient cannot show within a short period, named by the physician, that he has placed himself under satisfactory medical treatment. It is also the duty of the physician to inform the magistrate, when he deems it necessary, that the patient should be sent to a hospital, and the magistrate must report the same to the physician as soon as it happens. If a patient refuses examination, the authorities must invoke the law.

2. In order to prevent the spread of venereal disease the county physician must do his best to discover the source and method of infection, as well as to further the admission into hospital.

The physician is also bound to inform the authorities if the patient refuses treatment, does not faithfully follow orders of physician, or when there is danger of further infecting others. Finger: Ztschr. f. Bekämpf. d. Geschlechtskrankh., Leipz., v, part 11.

5. "The objections which are brought to bear against regulation from a social, moral and legal point of view are so formidable that the usefulness which, from a sanitary point of view, it might possess is not allowable as a consideration for its retention or abolition.

"Any prophylactic measure which so offends the sense of justice cannot be maintained by reason of so lame a recommendation as that it is of some, although not great, usefulness.

"Only under conditions that would prove regulation a sanitary necessity could there be any consideration of its retention. Since the committee can admit no such presumption, it cannot consent that this form of law against contagious venereal disease be further used in our country."

The committee recommended certain new laws, such as punishment for the infection of another, in severe cases two years' imprisonment; the duty of physician to search for the source and the conditions under which infection takes place; punishment to four years of forced labor for procurers; making infectious diseases grounds for divorce. Furthermore, it was recommended that professional prostitution be forbidden and such persons be made amenable to the law as vagabonds. Mitt. d. Deutsch. Gesellsch. z. Bekämpf. d. Geschlechtskr., April, 1911.

6. Danish law of March 30, 1906, rescinds the law regulating prostitution. New laws:

Article 1. Police regulation of professional prostitution is repealed.

The police have the right to interfere (take steps against persons who practice this trade) according to the law against vagabonds.

Article 2 of the law against vagabonds can be used only after due warning has been given. This gives the police the right to bring before a judge vagabonds or others who cannot show that they have means or regular work; he may order such person to get work or provide work for him.

If the said person does not appear or does not follow the order to work, they may be punished by forced labor. However, the vagabond law can be put into effect only after a preliminary warning.

Article 2. Whoever provokes, tempts or entices to prostitution, whoever openly leads a life of indecency, whoever gives rise to open scandal or is a nuisance to neighbors, will be punished by imprisonment; under aggravating circumstances or repitition or offence, by forced labor. Under extenuating circumstances the punishment may be a fine.

The same punishment will be inflicted on any professional prostitute who keeps in her house any child over 2 years of age or who receives for immoral purposes young people under 18 years of age.

An admonition may precede punishment in any of the above cases in which it is a first delinquency.

Article 3. It is forbidden to keep houses of prostitution. Whoever disobeys this law is punishable with imprisonment, the house of correction or hard labor.

Procuring amendable to same punishment.

Whoever for pecuniary gain allows prostitution in his dwelling or rents rooms not to permanent roomers but to encourage prostitution, or who shelters girls under 18 who prostitute themselves, will be punished with imprisonment or hard labor.

Repetition of the offence may be punished by two years of forced labor in a penitentiary.

It is forbidden to advertise publicly, to expose or export articles for the purpose of preventing the consequences of sexual intercourse or to offer the same for sale to strangers or promiscuous individuals.

Article 4. Any person who has sexual intercourse under the conditions set down in Article 181 of the Penal Code will be punished as provided for in Article 181 if through such intercourse another becomes infected and institutes a suit within one and one-half years after the diagnosis of the disease.

If the person infected in such intercourse was ignorant of the danger of such infection, the author of the infection must pay not only the cost of treatment but damages (compensation) as well.

Article 5. Individuals with infectious diseases have the right, though they may have the means to pay for treatment, to derive such treatment from government sources. On the other hand, they are obliged to submit to this treatment; in every event must the individual be under such medical care as offers a sufficient security.

If the venereally infected individual finds himself so placed that he or she cannot prevent infecting others, or if he does not obey the rules of prophylaxis which have been prescribed, he must be sent to a hospital. The prefect of the police in Copenhagen and the president of the police are the authorities in such cases.

Neglect of these duties are followed by correction from the above officials. If these remain without results the police step in.

Individuals who are in receipt of public charity must be treated in hospital when subjects of venereal disease.

Article 6. If during, or at the end of, treatment the physician considers that in view of the danger of infecting others the patient must still be kept under observation, the physician must demand of the patient to present himself at stated times, if the patient does not bring a written proof that some other legitimate physician has him under treatment. The necessary proof can be obtained from the government physicians and the municipality.

If the patient does not obey this law, or if the physician wishes to give up the case and the patient does not appear with a certificate stating that he is under the care of another physician, then the official physicians must be informed and the aforesaid patient must be commanded to present himself at the public dispensary.

Article 7. The physician is commanded to inform the patient of the infectious character of his disease as well as the punishment which would follow his infections of another. Particularly must he be warned against marriage as long as the danger of infection exists.

Article 8. The physician is ordered to report weekly the number of persons who come under the head of Article 6. Patients who give the physicians false names, sheltering positions or addresses are punished.

Article 9 treats of the infection of a healthy nurse through a sick child or a healthy child by means of a sick nurse.

Article 10. Whoever is accused of crime against Articles 1, 2, 4 or 9 of these laws or 181 of the Penal Code must be asked on an order of the police to submit to examination by a physician. In case of refusal, if the proof of the accusation is sufficient, the law must force the examination.

Article 11. The medical examinations in cases above described shall be made by the public district or city physician or by a specially appointed visiting physician. The compulsory visit shall be made by a physician of the same sex as the accused (unless it is immaterial to the accused) if such is to be found in the same district, so that no delay may occur, and if the said physician is willing to undertake such examination.

Article 12. The official physician must treat all venereal patients free of charge.

Article 13. If the official physician deems it necessary, the patient must present himself at the times stated by physician. Neglect in doing so is punished first by fines and later by intervention of the police.

Article 14. Those who are treated free in hospitals may not leave such institutions without the consent of the physician.

Article 15 forbids proprietors of hotels or rooming-houses to make use of prostitution for the service or amusement of guests.

Article 16 gives the various grades of punishment and defines venereal disease and its various forms.

Article 18. The law shall go into action six months after date, Oct. 11, 1906. All earlier laws governing prostitution thus become null and void.

7. Edict of 1835. Prussia.

65. When, according to the opinion of the physician, secrecy as to the disease will lead to adverse consequences either to the diseased person or to the community, he is obliged to report the case to the police. Failure to do so makes the physician amenable to a fine of 5 thaler, with a double fine for a second offense.

69. It is the duty of the police to see to it that physicians, especially those employed in hospitals, make every effort to inform the police of the sources of infection in order that careless and indigent persons may be prevented from further spreading the evil (Finger).

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gerous, he asks them to enter the hospital for treatment. If they refuse they are arrested and brought to the hospital by the police. If they leave without permission, they are again returned by the police.

In the Rudolf Virchow Hospital in Berlin, while other diseases are treated in pavilions of twenty beds, two buildings, four stories in height, are devoted to venereal disease. It is significant that each is surrounded by a stout wall and a locked gate.

In Austria the few laws which apply have been inspired by the same spirit.

The most cursory glance at the different methods of these countries will show why in Norway, Sweden and Denmark, in spite of the appalling conditions of a hundred years ago, there is a steady decrease of venereal disease, while in France, Germany and Austria venereal disease shows no appreciable decrease. These governments will not admit that they have to deal with a wide-spread contagious disease, the control of which should be in the hands of a health commission, but still rely on the police to carry out a number of paradoxical and one-sided laws which are utterly unfitted to control disease.

Another important point in the laws of these northern countries is that concerning the investigation of the sources of infection.

In the study of a question so difficult of solution, so momentous in its importance, one seeks in all directions for the support of some known experience.

Dr. Magnus Möller of St. Goran, Stockholm, gives some interesting data based on the questioning of 661 patients, mostly artisans and laborers, concerning the sources of their infection. He was struck with the general willingness to give full information, when the questions were tactfully put and the seriousness of the investigation made evident.

At least 20 per cent. of the number gave information sufficiently clear to make investigation of the source possible; 67.7 per cent. could give no information, having been drunk at the time of infection. In one-quarter of the cases was the cause traced to controlled prostitutes. A number of cases were often traced to one individual.[8]

The secrecy maintained in regard to syphilis and gonorrhea has led to a neglect of these diseases by the general practitioner. A physician does not follow closely the woman patient whom he dares not warn of the true nature of her disease.

The symptom once eradicated, the patient drops from view and is still exposed to further ravages of the disease. The physician is deprived of clinical observation, valuable not only to his own further development, but to the health of the community. Diseases neglected in treatment will be neglected in study. It is the constant cry of specialists that the knowledge of the general practitioner in the matter of venereal disease is lamentably defective.

Professor Finger has rightly said that we shall never make progress in the treatment of syphilis and gonorrhea until the public has been made to understand that instead of being ashamed of and not fearing these diseases, they should not be ashamed of but fear them. The public can be made to understand this only by placing syphilis and gonorrhea where they belong, with the other infectious diseases.

Where these diseases are reportable, both physician and patient are placed in a position of joint responsibility as regards the public health. The physician's interest is kept alive. It would be of incalculable educative value for the man who is carrying about with him a disease to know that it is regarded, not as a concomitant of manhood, but as a pathologic condition and to be forced by public measures to consider himself a menace to others whether he evades the law or not. If, as in other infectious diseases, the law is made to cover the seeking and elimination of the sources, we shall have the whole matter of scientific treatment in our hands.

The theory has been advanced that there is only one thing to do: wait for science to find a remedy. There has been a remedy in existence since the sixteenth century. It was found by chance but properly used is good. Salvarsan may or may not fulfil its promise. It is already much talked of as an excellent adjunct to mercury.

How can the public be made to feel the necessity for treatment and how can they be saved from quacks? A law should exist making treatment of such diseases by any but legitimate physicians a criminal offence. The quack is already making use of scientific discovery and social progress.

After our first public meeting in San Francisco, a decided difference crept into the wording of quack advertisements. It was easily discernible that they were stealing our thunder.

No sooner was the discovery of salvarsan made public property than an enormous advertisement appeared in an Austrian paper inviting the public to visit an exhibition of "Professor Ehrlichhata's Cure 606." "The Greatest Discovery the World has Ever Seen. Entrance 10 pf. Fridays for ladies only." The usual panoptikum wax figures were shown with the inscriptions: "Before Treatment." "A Few Hours After Treatment with Herxherimers Reaktion." "Several Days After, Cured."

There are only two ways for the medical profession to protect itself from these parasites: appealing to the law and assuming a definite attitude regarding this question.

For those who have studied the psychology of the crowd, it is not so difficult to see the reason for the success of the quack. He talks out loud, very loud. He makes a great show of being open in his methods. The people do not go to quacks for the treatment of venereal diseases alone. They fear and distrust the knowledge of the physician which he dares not impart. It smacks too much of magic and so often does not fulfil its promise.

Let the public realize that we range ourselves on the side of law, order and justice. Let the physician respect the confidence of his patient but let him scorn the confidence of the man who would deliberately do a criminal act and make him a party to it. There may be those who will prate of professional secrecy, but in their souls they will esteem and admire the man who can rise above an antiquated tradition in order to save even one woman from the results of either one of these dread diseases.

The medical profession stands in a position of peculiar delicacy in this matter, being the only class outside the handful of social workers, who have come in contact with the recognized results of prostitution. Physicians in the world and of it have shared the uni-

8. A number of cases were often traced to the same source of infection; thus, three cases of gonorrhea to the same controlled prostitute. Three cases of primary syphilis (two boys of 16) to the same source. Four gave the same woman as cause (controlled prostitute. (Magnus Möller, Stockholm. See Note 2.) In Norway during a period of nine years, by means of report and search for the source, 546 women of all ages, of whom 262 were syphilitics, came under the care of the sanitary commission. Strange to say, only twenty-two syphilitic men were discovered in this manner. Italy must be mentioned as not only treating all who come gratis, but providing medicine as well. This law, *Lex Crispi*, was due to the efforts of Prime Minister Crispi.

versal error of secrecy. We may safely say—until now an error. We may also confidently assert, speaking for the world, or rather for those who make the world worth the while and who must ever be the mouth-piece and the guide of the physically, mentally and morally unfit, that the physician who now lends himself to the policy of secrecy makes himself the accessory to a crime.

It is not only his bounden duty to take his public stand for the public good, but it is also his duty to assert his attitude toward those of his profession who through ignorance, mistaken ideals, or absence of professional honor create an opposition which is destined to deprive medical practice of its right to be called a profession.

The moment for half measures is past. The dire physical consequences, with frequent vicious mental accompaniments, come to our notice daily and what do we do about them? We are treated like merchants. Our prescriptions are taken—bills paid or not; our patients neglect themselves or worse—pass on the consequences of their vice—and we shrug our shoulders, pocket the money when we get it and feel that our duty is done.

The members of the international congresses of 1899 and 1902 found themselves face to face with a seemingly insoluble problem. In despair at finding an immediate corrective, and overwhelmed at the universal magnitude of the problem, like little children of larger growth, they turned to the mothers and cried out, "You cannot make us over. See in us the evil effects of ignorance and neglect. Care for our sisters and brothers!" They did, it is true, strike a fundamental note. Reformation of character can rarely begin with the adult.

The horror of economic conditions has been laid bare and willing hands and minds are working in every direction to help the poor to a living chance. But what has the medical profession done? It is now twelve years since the first international congress was held. Societies for the purpose of fighting venereal diseases have been formed the world over, inspired or founded by medical men. In this country the general complaint is that medical men do not uphold them. It is the layman who keeps them going.

It is time that the medical profession rises as one man and does its duty toward the state in which it lives and the nation whose health it is supposed to safeguard. Publicity in this matter of venereal disease is one of the first requisites for its control, as it is for the control of any other infectious disease. Read the findings of the Chicago Vice Commission and ask yourselves if there should be any more temporizing.

If laws demanding a report of every case, without name, be passed; if every discoverable source of infection be controlled regardless of the patient's social position; if adequate hospital and clinical facilities are provided not only for the very poor but for the struggling middle class, the medical profession will be able to say with pride: "We have done our best to inspire public confidence. We have vindicated our right to be the custodians of the public health."

5 Avon Street.

Neglect of the Middle Period of Life.—The rungs at the bottom of the ladder of life are being carefully looked after; those at the middle of the ladder have been neglected; the physical welfare of the man has been lost sight of in the multitude of attempts at prolongation and betterment of the physical properties of the child.—Guilfoy in *Journal American Public Health Association*.

REPORT OF COMMITTEE ON CONTROL OF VENEREAL DISEASE BY A MUNICIPALITY *

When I was asked by the Chairman of the Section on Preventive Medicine and Public Health, Dr. William A. Evans, to act on a committee for the purpose of reporting on the control of venereal disease by municipalities, I accepted without hesitation and for two principal reasons: first, because my associate on the committee was to be Dr. George M. Kober of Washington, who has studied this problem exhaustively and has reported on it, and second, because I have made some study of the question myself and consider it one of the most important problems, as well as one of the most difficult ones, with which the public health official comes into contact and is expected to solve.

There is no need of taking up the time of a gathering of sanitarians by reciting statistics, easily accessible and probably more or less known, to show the prevalence and the ravages of this class of diseases. Such an introduction to the subject would be indicated in a popular address, but may be safely omitted here.

I have written to the health officials of twenty-one of the larger cities, asking what their cities are doing for the control of venereal disease and what, in their opinion, the cities should do. I have received answers from fourteen cities, and they show that in seven nothing is being done, in six some steps are now being taken for the prevention and restriction of venereal disease, and one city, namely New York, is about to start a vigorous campaign, which is outlined by the secretary of the Board of Health as follows:

"As the result of widespread agitation that has taken place in the city of New York during the past few years, the Board of Health has urged on the Board of Estimate and Apportionment the need of making provision in the next annual corporate stock budget for the erection of a public hospital for the care of persons suffering from venereal diseases. In addition, the matter is to be referred to the Medical Advisory Board of the Department of Health and it will be requested to consider the subject and submit recommendations for a comprehensive plan for the public control of all such diseases."

In four of the seven cities in which nothing is being done, the health officers make no recommendations and give no expressions of opinion as to what ought to be done, but in the three remaining cities the health officers are evidently anxious and willing to start activities. They all recognize the value of an educational campaign and all advocate it.

One of the writers, a health officer of a large eastern city says: "Every city ought to furnish advice to those contemplating marriage. More than this, it should work for the control of these diseases by instituting a program of sex education, beginning with the little child when it first begins to ask questions relating to the origin of its being."

Another letter from a far western city says: "I think, however, that the public should be educated on the importance of this question, as the results are more far-reaching than any one has an idea of."

The third letter from an assistant health officer strongly advocates "a sane method of spreading knowledge on this subject" as the only way to control the diseases. Of the six cities in which some precautionary methods are in vogue, five are taking care of the patients in hospitals, some insist on hospital treatment which is compulsory or nearly so, while others take only such patients as are willing to go to a hospital for treatment. In two cities, special clinics are maintained by the municipality for the purpose of controlling venereal disease. At these clinics cases are registered, patients properly treated and can be kept under observation.

An interesting letter was received from the health commissioner of one of our most prosperous and growing western cities. He deals with the subject from the standpoint of the

* Read in the Section on Preventive Medicine of the American Medical Association, at its Sixty-Second Annual Session, held at Los Angeles, June, 1911.

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spread of venereal disease by public prostitutes and relates some interesting municipal history. The former mayor of the city in question established a restricted district, in which all known prostitutes were segregated and then subjected to rigid inspection and police control. On account of the establishment of this district and conditions which surrounded it, a recall election was held and a mayor elected who announced his position in his campaign substantially as follows: "If I am elected mayor I will not allow a restricted district to exist in the city, and furthermore, I do not believe that public prostitution is necessary." The health commissioner goes on to say that the mayor has carried out his preelection promise and that the city is much freer of prostitutes than it has been at any time within the last twenty-two years, and then the writer concludes: "Venereal infection in this city has been reduced to a minimum. Two years ago, the woman's ward in the City Hospital was filled with women suffering from venereal infection. To-day, while we are treating more patients, such diseases are not frequently seen." Although I cannot agree with the doctor's conclusions, I was much interested in his report and am pleased to submit it. There are only two cities from which I have received the information that these diseases are reportable to the board of health. The health officer of Cleveland says: "Venereal diseases are reportable in Cleveland. The law is not strictly enforced, as it is as yet almost impossible, but it gives us the power to order to a hospital any one that we find, for instance, in salesrooms or restaurants, etc., affected with venereal disease." Dr. Evans of Chicago reports that the dispensaries of that city are required to report venereal diseases and that, even without a law requiring this, hospitals are reporting to the board of health, for the most part at least, their cases of venereal disease.

In Michigan and in Detroit there is as yet no law requiring the reporting of cases of venereal diseases. This is true, not because the public health officials are opposed to having these cases reported, but rather because they believe that it would not be possible at this time to enforce such a law strictly. In order that a sanitary law may be enforced it must be backed by public opinion, and this can be brought about only by a campaign of education. We therefore believe that the first and most necessary step for the control of venereal disease is a vigorous campaign of education which will teach the people something of the prevalence and dangers of these diseases and the necessity of reporting the same.

The physicians, too, must be educated in this respect. Ten years or more ago it would have been impossible to have passed and enforced a law requiring the reporting of cases of tuberculosis, and practically the same objections that were then advanced against such a law are now used against the reporting of these diseases. It is held by the opponents of such a measure that the knowledge of a patient having venereal disease must be kept secret between the patient and his physician. This objection can easily be overcome by inserting in the proposed law, as was done in the case of tuberculosis, a section protecting the records and making it unlawful for the health officer to divulge them.

In undertaking a campaign of education of the masses, the health authorities of any municipality should seek the cooperation of a number of intelligent people who may associate themselves by the formation of a society for sex hygiene or some similar organization. This has been done in Detroit. There has been formed an organization known as the Detroit Society for Sex Hygiene, whose principal object it is to give this subject the proper kind of publicity. Pamphlets have been published and distributed in the workshops, in public schools, among church societies and in other places where it is thought they would do the most good. A number of public meetings have been held in which well-informed speakers have explained the subject to the people. In this way public sentiment is being aroused and it will not be long before it will be possible to obtain a law requiring the reporting of all cases of venereal disease and at the same time it will be possible to enforce such a law.

In the meantime there are some things that a municipality can do looking towards the prevention of venereal disease. In the case of tuberculosis we did not wait for the reporting of all of the cases but rather went in search of them. In Detroit, for example, we employed visiting nurses to make a house-to-house canvass, the primary object of which was to spread the gospel of the prevention of tuberculosis, but incidentally to find cases of the disease that had not been reported and refer them to the board of health for further investigation and action. In the case of venereal disease, we can reach some of the cases, and it seems to us that the practice now in vogue in Chicago and reported by Dr. W. A. Evans, namely, to require the reporting of cases of venereal disease by all dispensaries and hospitals, is a good one. There is no reason why this cannot be done in other communities and it is not likely that hospitals and dispensaries would object to such a requirement. Again we know that in nearly all cities there are a number of prostitutes, and in most cities these women are more or less segregated, and we further know that among this class are to be found a large number of cases of venereal disease. It stands to reason, then, that these women, who are plying a lawless vocation, should be made to report the cases of venereal disease that may exist among their number. In making this suggestion we do not intend to recommend the licensing of houses of prostitution and the regular medical inspection of their inmates. We believe, as has been said by Dr. George M. Kober in his paper on "Diseases Which Menace Public Health and Morals," "that such licensing and medical inspection tend to produce a false sense of security, as inspection is insufficient to prove the absence of disease even in the hands of the most skilled." On the other hand, it is possible to secure the reporting of venereal disease among prostitutes by another method, which has been adopted by the Detroit Board of Health. We accept no certificates of good health whatsoever. The keepers of all houses of prostitution, known to the police, have been notified by the latter that inspectors from the board of health will make occasional visits at these houses for the purpose of examining inmates. These visits are made at unannounced and irregular intervals. Whenever an examiner finds one or more of the inmates ill with a venereal (contagious) disease, the house is placarded. We use a large yellow placard with the one word, "quarantined," printed thereon in large, conspicuous black type. If the keeper of the house or her physician reports the case to us before we discover it, we give the patient the alternative of going to the hospital and do not quarantine the house, just the same as if it were a case of some other contagious disease, for example, small-pox, scarlet fever or diphtheria. The effect of this regulation is that the cases are reported, but the machinery necessary to make it a success is a corps of competent medical examiners and proper hospital accommodations. In Detroit it worked out as follows: Shortly after the adoption of the regulation by the board of health, the health officer made a visit to one of these houses and examined the inmates. One woman suffering with gonorrhea was found, the clinical diagnosis being confirmed by a bacteriologic examination. The house was immediately quarantined and the result was that within a week we had reports of at least twenty cases of venereal disease with requests that the patients be removed to the hospital. We found that our hospital facilities were wanting and accordingly began an agitation for an appropriation for this purpose, which was finally granted in the spring of this year and we hope, within the next twelve months, to have hospital facilities sufficient to carry out the plan.

There is another class of cases of venereal disease, gonorrheal vaginitis in young girls, which can be reached. Many of these cases are found in dispensaries and children's hospitals and would be reported under the Chicago plan; many others can be found in the juvenile courts wherever such institutions are in existence. A juvenile court has recently been established in Detroit and by placing a physician at the disposal of the court for the purpose of examining the girls and boys who come under its jurisdiction, a number of cases have been discovered. I desire to say in this connection that the cases of venereal disease among boys have been very few as compared with those found among the girls.

The maintenance of special clinics by the municipality, such as are reported from two cities, is of great value in the con-

trol of these diseases. In Detroit and in many other cities the board of health maintains one or more clinics for tuberculosis. In these institutions the cases are found and the opportunity is given to the board of health for a visit to the homes of the patients and the possible discovery of additional cases. It has been our experience that the majority of incipient cases are found in this way. The same opportunity for a visit to the homes and a proper inspection may be had in the case of a special clinic for venereal diseases. We are about to open such a clinic in the Board of Health Building in Detroit and are hopeful of good results.

It is a striking fact that in my correspondence with the health officials of fourteen cities, only one, in his answer, alluded to the damage done the eyes of the new-born by gonorrheal infection. The suggestion comes from Dr. Evans of Chicago that this side of the problem should not be forgotten, and well we know that he is right. To control ophthalmia neonatorum every city should have effective regulations governing midwives and physicians who attend maternity cases, as well as hospitals and institutions in which such patients can be cared for. Special clinics, known as "mothers' clinics," should be maintained and, besides being in charge of a competent physician, they should be equipped with a corps of visiting nurses whose duty it is to make calls at the homes of the babies and, while instructing the mothers in the general hygiene of the child, they should pay particular attention to the care of the eyes.

In conclusion I would make the following recommendations:

1. The inauguration of a campaign of education, in cooperation with a society specially organized for that purpose.

2. The requiring of reporting of all cases of venereal disease by dispensaries, hospitals and juvenile courts.

3. The requiring of the reporting of all cases among prostitutes.

4. The establishment of special clinics under boards of health for the treatment and control of venereal diseases.

5. The enactment of a law requiring the reporting of all cases by physicians.

6. The establishment and maintenance by the municipality of hospitals of sufficient capacity to care for all highly infectious cases.

7. The establishment of laboratory facilities for diagnostic purposes, such as are had for other contagious diseases.

8. The amendment of all birth registration laws so that births are required to be reported within twenty-four hours.

9. The enactment of laws or regulations for the control of midwives and physicians who attend maternity cases.

10. The enactment of laws requiring the reporting of specifically infected eyes.

GUY L. KIEFER, M.D.,
Health Officer, Detroit.

I concur in Dr. Kiefer's recommendations.

GEORGE W. KOBER, M.D., Washington, D. C.

ABSTRACT OF DISCUSSION

ON REPORT OF DRS. KIEFER AND KOBER AND PAPERS OF DRS. GREENE AND EATON *

DR. HERBERT GUNN, San Francisco: As chairman of the Committee of Public Health of the County Medical Society of San Francisco, I had occasion to look into this subject very thoroughly. We were asked to pass judgment on it, which later on was deferred; but I took the trouble to go to the venereal disease clinic established in San Francisco, as described in Dr. Eaton's paper, frequently during that time, and also to go around at night with the plain clothes policemen who were in charge of the work under the supervision of inspectors of the clinic. I know, from personal observation, that a definite work is being accomplished there. They have under the control of the clinic now several hundred women; many of those found infected have been checked up in their homes or their places of business, at various hours of the day and night, and it has been found that a great many of them are really not doing work when they have been told not to do it. The madam in charge of them, in instances in which they are in regular houses, cannot afford to allow them to do it, because the houses are put out of business for a week on the first offense, or permanently if repeated. One woman was sent to the county jail for sixty days for having disobeyed the orders of the clinician; so that many of them are afraid to disobey. The only thing which I could see which would greatly improve the work would be the absolute segregation of prostitutes. Were this possible they could be controlled very much better than they can now. The greatest difficulty is encountered in dealing with the women in cafés or dance halls—women who live, possibly, in apartments and go to these cafés to pick up customers whom they take to a transient hotel, subsequently returning to their apartments. These women are very hard to control, because they move around constantly. I believe, however, that quite a number of them are going to the clinic, while some have either left town or stopped doing work when they were ordered to appear for examination.

As far as the matter of education is concerned, and the dissemination of knowledge on this subject, I think that the establishment of the clinic in San Francisco has done more in that line than anything that was said or done by any of the societies of California prior to its establishment. Every business man in San Francisco at the present time is perfectly familiar with the subject; they are talking about it, and the majority of them, I believe, are in favor of it.

As far as the success of *réglementation* or segregation and the regulation of prostitution is concerned, it is not a failure in all parts of the world; and, furthermore, if it were, is that any reason why it should not be tried again if no better working plan can be devised? In Manila the plan of segregation and inspection has been carried out thoroughly and successfully. The percentage of venereal disease there has materially decreased. Years ago, when I was in the Army, Manila was one of the worst infected cities in the world. Even then, I saw examples on a small scale of segregation and regulation in army posts. In one regiment, nearly 900 strong, over 400 had venereal disease. In one company there were thirty cases of syphilis, nearly all originating from one woman.

The smaller the town the less the difficulty there would be in controlling prostitution. In the larger cities the difficulties are considerable, especially in San Francisco. In the valley towns of California, for instance, it could be carried on with very little difficulty, because practically every prostitute would be known by everyone in town, so they could be readily controlled.

It is said that venereal diseases should be treated the same as other infectious diseases. Why not treat them as small-pox is treated? In San Francisco patients with small-pox are either quarantined in the house or sent to the hospital; they are immediately isolated and compelled to be under observation; exactly as they are doing with venereal diseases, as far as possible. True, they cannot control them entirely, but if we, as physicians, or people, as business men, found that expenses could be decreased 10 per cent., would the opportunity not be embraced? If we could reduce a typhoid epidemic 10 to 15 per cent., we would think we were doing a good deal. Exactly the same with this: if you can control a small part of it, you have done something. If this clinic does no more than save one or two a month from developing syphilis it is accomplishing a good work.

DR. FRANCES M. GREENE, Cambridge, Mass.: When I first went to the laboratory of our great master, Rudolf Virchow, I was going to do more than anybody else ever did. I began at the beginning and worked for several weeks with might and main. Then the Geheimrath came to me and said: "Now, my child, when you begin to do a scientific work, the first thing for you to do is to find out what was done before, and if it was done, and well done, by reputable scientists; begin where they left off, but do not waste your time in doing the things that have already been well done." That is exactly what is being done in San Francisco to-day. It is a great paradox. Directly following the passing of one of the sanest laws—we are the one race that has had the courage to put these diseases where

* The paper by Dr. G. L. Eaton, San Francisco, describing the attempts at regulation carried on in that city, is not yet published. The entire discussion is given here, however, following the remainder of the symposium.

they belong, with other infectious diseases—we go back 100 years and begin where Napoleon began in France—trying to segregate the prostitute and control venereal disease in that way. Dr. Nevins, an English authority, calls attention to the fact that venereal disease of all kinds throughout the whole home Army, and also primary disease in the Army stations under *réglementation* (that is, under the contagious disease acts) show the same results—a large reduction of disease for six years before *réglementation*, under the influence of sanitary, social and moral agencies with the object of raising the character of the men. These agencies were still sporadic when *réglementation* was tried; and the disease still continued to fall, but at a low proportionate rate. The government, dissatisfied with comparative failure, stopped the pay of the men, sent them to the hospital for primary diseases, and the men ceased to report to the Army doctors. Hence the published statistics of the disease were unreliable owing to the amendment.

It is a well-known fact that there are constant oscillations in this matter of venereal disease in all countries, whether they are under *réglementation* or not. In 1883 *réglementation* was suspended; that is, the theoretical examination of the women at a certain time when the soldiers were returning from Egypt, bringing a great deal of disease, and the figures rose for those two years. In 1886 parliament absolutely abolished *réglementation*, and venereal disease began to fall largely and steadily from 275 per thousand to 140 per thousand during the twelve years of abolition. In India there was a steady fall for seven years before regulation. After the introduction it went on falling, and then it rose again for nine years, at the end of which time, as in the beginning, it rose steadily; and at the end of twenty-one years it was twice as high as in the beginning.

Denmark had regulation eighteen years—1874 to 1891. During the first six years the army at Copenhagen showed sixteen cases to a thousand; during the last six years it showed 201 per thousand under regulation. The Dutch East India army under regulation showed 443 per thousand; the English in India at the same time, without regulation, showed 425 per thousand.

Now, it is an absolute fact, declared by every known specialist on venereal disease, that you cannot always diagnose a gonococcus infection, and that you cannot possibly control women by examining them, for this reason: these diseases may be passed by the vagina, even if the woman has no disease whatever. Here are the statistics in the British camp at Aldershot: In 15,000 men, among whom there was general inspection, Mr. Lawson found twenty-three per thousand in one regiment; 142 in another; and all of them under exactly the same regulation. In the English army, therefore, in order to investigate this matter, fourteen stations were selected and fourteen left without *réglementation* as an experiment; the lowest in the whole twenty-eight was in a camp in which there was no regulation. The same occurred in Holland and in Denmark. Pearson of Holland says that in certain cases women absolutely without disease would pass it on from man to man. At Hardwicke, in Holland, the women of the two houses of prostitution were rarely seen, but the numbers were enormous that had venereal disease, which went up to eighty-seven per thousand. In the Franco-Prussian war, at one place there were 200 women who were thoroughly examined, as they thought, but the hospital was filled with soldiers with venereal disease. They examined these women and found only one or two cases of disease in the whole 200.

The greatest of all specialists on this question, M. Fournier of Paris, says: "We cannot do *réglementation* well. It is impossible." They have had a commission there for years trying to better the conditions, but he shrugs his shoulders, as a Frenchman would, and says: "*Réglementation* may do a little good; but we have no right to do that little good, because we are doing a great deal more harm than that little does good."

What do you suppose it means in San Francisco to let our youth know that prostitutes are being inspected? These young, sincere and enthusiastic physicians who are trying to do it present their first statistics and declare that they have the diseases under control. What does it mean? That they say to the young boys in San Francisco: "It's all right, boys. Go ahead!"

In Berlin there are 5,000 prostitutes under absolute control. Do we hope, could we hope, in San Francisco, under a mayor who declares absolutely that the town is "open," who has opened every dive that a former good administration closed; who will not allow any measures to be used against dance halls—can we hope to make that police sufficiently conscientious to drag those women to the courts; and, after all, have we any right to drag those women? None whatever. None, more than we have to drag the men. But we can interpret the wise law which the State Board of Health has formulated. We may not get every case; but we must make every one, the prostitute as well as the non-prostitute, the men as well as the women, amenable to the law.

In Norway there is no objection to clinics; they have three; and while there are 5,000 legalized prostitutes there, they treat some 20,000 to 30,000 women every year, and men as well; and it is only in this absolutely just and sane way of treating the matter that we can hope to make any real progress. We must not assume from little sporadic indications that we have done it all; the thing that has existed for so many decades cannot be cured in three months!

DR. W. F. SNOW, Sacramento: We have in California a number of very interesting plans which are being tried out in the way of control of syphilis and gonococcus infections. Los Angeles is at one extreme of the problem and San Francisco at the other, with the State Board of Health trying to begin somewhere in the middle. Education of the people is the only thing which is going to help us permanently make progress on this problem, and I believe that the control of marriage is more important than the control of prostitution. The accurate reporting of syphilis and gonococcus infections cannot be overestimated. In California we now have a state law requiring syphilis and gonococcus infections to be reported. I supposed that it would be rather slow work getting reports from physicians, but it is not so. They are beginning voluntarily to report before our board has even had time to draft an explanatory letter stating what we wish on this subject.

We should make these diseases reportable by law in every state and city. I think we can do it without in any way involving the professional confidence between physicians and their patients; and I believe we can build on that, as Detroit has done, in an administrative way. I think, secondly, we should work for better laws controlling marriage and prostitution; thirdly, we should unquestionably come out in the open, as men and women, and discuss these things on a high and practical basis, and educate every boy and and (I want specially to emphasize this) every girl, with reference to the physiology and the hygiene of sex.

Here in California, as I said yesterday, over 85 per cent. of our children leave the schools when they are 15 years of age. Who helps them with this problem? Their parents do not. Their parents have not been taught how to help them wisely; our schools give them practically no instruction on this subject. Who helps them in that period of awakening passions, from the age of 15 to 27, when our young men in this state and the United States as a whole marry? Who tells them of the dangers of visiting the "red-light" districts? No one. I think we, as citizens of the United States, owe it to these young people from the age of 15 to 27 that they should know about the dangers of these communicable diseases, the facts of sex hygiene and physiology, and the sacredness of marriage, that in their time they may come to realize that greatest of all human blessings, a happy home and family.

DR. E. STUVER, Fort Collins, Colo.: We have done a great deal in the last few years in the attempt to stamp out tuberculosis and to educate the people as to the dangers following from this disease. I believe that venereal diseases to-day are causing a great deal more trouble, sorrow and death in this world than is tuberculosis; and I believe that we should devote as much or more time to the stamping out of these diseases as we devote to that of tuberculosis.

I fully believe that every case of venereal disease should be reported. About sixteen years ago I read a paper before

the Colorado Medical Society advocating the reporting of these diseases and the isolation of those affected with them in special hospitals for that purpose. To me, the most important thing in connection with the prevention and control of venereal diseases is education. I believe that we, in the reading of papers, speaking in discussions, and all that sort of thing, at our meetings, should do that; and not only that, but we should go back home to our several communities and constitute ourselves a committee of one and carry this expression to the people who are under our charge. I believe that every physician here, by approaching the director of the Y. M. C. A., the superintendent of the schools, or in other ways, could have the privilege of educating the people of his community.

During the last couple of years I have delivered a course of lectures to the boys of our Y. M. C. A. on this very subject. I have also given a couple of lectures to the nurses in our training school on the subject, because no one is more exposed to the dangers of venereal infection than the nurse. By this individual enthusiastic work on the part of every physician in the country we could soon so arouse the people that they would say that venereal diseases must be controlled. I do not say stamped out, because I do not believe, as long as human nature is constituted as it is, that we will be able to stamp out venereal disease; but I do believe that we can place it under such control that the innocent will be protected and there will be no necessity for anybody being ignorant on the subject. And, as before stated, nearly all the young boys and girls at the present time are really ignorant on this exceedingly important subject.

DR. S. A. KNOPF, New York: The control of syphilis and venereal diseases in general, as has been outlined by the preceding speakers, I most highly approve of. There is, however, one phase which should not be forgotten. That is to say, every city should do as New York has done—have an open house for the girl who wishes to leave that life. We have in New York such a house; we call it simply Waverley House, not Magdalene Home. We do not like that name. We let every girl who voluntarily wishes to return to a proper life enter there; no questions are asked. Most of our judges, when about to sentence a girl who has come up for the first or even a second time for soliciting, give her a chance to go to this probation or Waverley House and be under the care of a probation officer. Last year no less than one-third of all the girls received at that home returned to society as honest members. They have left their life of sorrow and shame voluntarily; they have returned to their parents, have been given positions, or have been provided a trade, so that they can now earn an honest living. The society providing this home for the unfortunate girl is incorporated under the laws of the State of New York, and the best men and women of the community are interested in its work and help to maintain it.

Therapeutics

ASPHYXIA

By asphyxia is commonly understood "a state of suspended animation caused by impeded respiration, as by strangulation, smothering, submersion, or the inhalation of an irrespirable gas" ("Foster's Medical Dictionary"). To these conditions should be added asphyxia due to electric shock or lightning stroke.

Asphyxia is one of the grave surgical emergencies which demands instant action by anyone present who knows what to do. Every physician should be conversant with the best methods to employ in treating patients in this condition. Its importance is equaled only by another grave surgical emergency, that of hemorrhage from a large vessel.

The forms of asphyxia which we are most likely to encounter are that of the new-born, that which is present in drowning, that which occasionally occurs during the administration of an anesthetic, and that due to the effect of electricity or lightning.

ASPHYXIA NEONATORUM

This condition is one which every obstetrician should be prepared to treat promptly. In milder degrees it occurs in a large proportion of deliveries. In its more severe forms it fortunately is less common.

The more common causes of the condition are premature detachment of the placenta, prolapse of the umbilical cord, excessive use of chloroform, of chloral, or of morphin administered to the mother to diminish the pain of labor, or large doses of ergot given during the second stage of labor to increase the contraction of the uterus, extreme compression of the head of the child owing to unusually severe contractions of the uterus separated by brief intervals, obstruction to the passage of the head by narrowness of the pelvis, compression of the head by unskilful delivery with forceps, compression of the after-coming head in the delivery of breech cases, and compression of the cord through its being wound around the child's neck, or through its being drawn into a knot.

The preventive treatment naturally is based on a consideration of these causes. In instrumental delivery great pressure on the head of the child should be avoided, and the traction should be made intermittent and not continuous. If there is prolapse of the umbilical cord, it should be replaced, the woman placed in the knee-chest position, and every effort made to retain it until the head has become engaged at the brim of the pelvis. In all severe labors preparation should be made before the birth of the child to apply suitable treatment in case it should be born in a condition of asphyxia. These preparations should include a baby's bath tub with a supply of warm water conveniently at hand, a bowl of cold water, a warm woolen blanket, small pieces of gauze, a bottle of aromatic spirits of ammonia, a bottle of whiskey and a hypodermic syringe.

As soon as the child is born it should be promptly slapped repeatedly on the buttocks and back. The mouth and throat should be wiped out with a piece of gauze so as to clear out any blood, mucus or amniotic fluid which may be there. If this does not promote the reflex action of breathing, the cord should be felt to see if it is pulsating.

By this time one has had an opportunity to inspect the surface of the child to see whether the condition is one of *asphyxia livida*, in which the skin is congested and livid and the reflexes are maintained; or whether the condition present is *asphyxia pallida*, in which the surface is pale and cold, the muscles are relaxed, and the reflexes are absent. The treatment should vary somewhat according to which of these two conditions is present.

If the condition is one of *asphyxia livida*, with congestion of the skin, there is some difference of opinion as to whether the cord, if it is pulsating, should be at once cut and a small amount of blood allowed to escape, or whether it should not be cut until later. Probably it is wiser to postpone this for five or ten minutes. In the meantime the child should be grasped by its feet in the left hand of the physician and held in an inverted position while several light blows are administered on the buttocks, shoulders and chest, in order, if possible, to expel any more blood or mucus which may be in the larynx and trachea. This position should be maintained for only a few seconds.

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Next, the Byrd Dewey method of artificial respiration should be tried. This consists in placing the palm and fingers of the right hand under the child's shoulders while the index finger and thumb support its head, the left hand being placed under the hips. With the child in this position, by raising the radial sides of the hands, the legs and knees of the child are brought up onto its chest and the chest is compressed so that the air is expelled; then reversing this position and allowing the head and shoulders to fall backward, the chest is expanded and the air drawn in. These maneuvers should be repeated at intervals of about five seconds, so that the procedure will be repeated from ten to fourteen times in a minute. If the cord is of average length, this can be done before the cord is cut.

If the cord has not been cut before, it should be now, and the child at once placed in a tub in which water of a temperature between 100 and 105 F. has been placed. This will promote the circulation in the skin and prevent the body from being chilled, and further treatment may be carried out.

The next method of encouraging respiration is that known as the method of Laborde. This consists in grasping the tip of the tongue either with the thumb and finger, with the aid of a piece of gauze, or with forceps, and drawing it forward and then letting it fall backward. This should be repeated from ten to fourteen times in a minute, and may be continued for one or two minutes. While this is being done the child should lie with the head drawn slightly backward, or on one side.

If the child does not breathe by this time, it is well to take it out of the warm water and plunge it into a bowl of cool water of a temperature of from 65 to 75 F. It should be allowed to remain here but a few seconds, and then placed back in the warm water. In the meantime it should be vigorously rubbed, but at the same time caution should be used not to rub it harshly for fear of doing serious damage to the skin.

In some cases it has been found that inserting the tip of the little finger into the anus will stimulate the reflex action of breathing.

Another method not infrequently employed is that known as the method of Schulze, which consists in standing back of the child, placing the palmar surfaces of the three outer fingers under its shoulders, the index finger of each hand under the axilla, and the thumbs on the chest, with the ball of the thumb resting on each side of the child's head. The physician thus grasping the child and then standing erect, gradually swings the child forward and upward in front of himself until it is above his head. In this position the child's thighs and legs fall against its chest, which is thereby compressed and the air forced out. Then swinging the child back into the original position, the chest is expanded, and the air enters. This may be repeated at intervals of five or six seconds, so that it will be done from ten to fourteen times in a minute. This is a method which presents more or less of the appearance of violence, and hence it is not always practicable to do it in the presence of the friends of the patient. It should also not be practiced if there are fractures of any of the bones, or if the child is especially feeble, or has been born prematurely.

If difficulty has been experienced in clearing the larynx and trachea of mucus, a small soft catheter may be inserted through the larynx into the trachea, and any mucus present drawn out, either by the physician himself or with the aid of a syringe or aspirator.

If other methods fail, it is recommended to blow air into the lungs of the child. This may be done by the so-called mouth-to-mouth method in which, a piece of gauze being placed over the mouth of the child, the physician filling his cheeks with air expels it into the mouth of the child, at the same time holding the child's nose. This method is somewhat inexact, as much of the air frequently goes into the stomach, but some of it goes into the lungs, if they are not already distended. After blowing air into the lungs, the chest should be compressed so as to drive it out again.

A few drops of ammonia on a piece of linen may be held under the child's nose, but not too closely, with the hope that this will stimulate respiration and, as it sometimes does, muscular contraction.

A hypodermic injection of 8 to 10 drops of whiskey is frequently recommended. Other things recommended are a hypodermic injection of a drop of tincture of belladonna or 1/1,000 of a grain of strychnin.

If by the time all these methods have been tried the child has not commenced to breathe, the physician naturally wonders how long he ought to continue his efforts. The answer to this question depends largely on the condition of the heart. He should continue efforts at artificial respiration and external stimulation as long as the heart beats. After it has been impossible for five minutes to detect any pulsation of the heart, it is useless to continue any further efforts at resuscitation.

If the efforts have been successful and the child commences to breathe, even if the breaths are taken at long intervals, one should avoid an over-anxiety in interfering with the natural performance of the function by the child. Once it has begun to breathe it probably will continue to breathe and the breaths will increase in depth and frequency until they become normal.

Turning now to the other class of asphyxia neonatorum, viz., *asphyxia pallida*, in which the reflexes are absent and the heart is weak; if the cord is not pulsating, it should be immediately cut and the child placed in a tub of warm water. If, however, it is pulsating the child should not be separated from the mother until the pulsation has ceased. The same methods are applicable in these cases as in the others, except that the more violent ones had better be omitted and all the efforts concentrated on the employment of the milder methods, especially the rhythmical traction of the tongue as practiced by Laborde. Especially is it important to maintain the temperature of the child, and the water in the warm bath should be maintained at a temperature of 100 or a little higher by adding fresh warm water as fast as the water in the tub becomes cool.

After the child has gained the ability to breathe regularly it should be carefully watched for several days, for if there has been difficulty in relieving the asphyxia, there is danger that it will become feeble and die in the course of a few days. It should be well wrapped up, and the external heat should be maintained. Whiskey may be given in doses of from 3 to 5 drops every two hours. The milk should be drawn from the mother's breast and fed to it with a medicine dropper, if it is not able to take hold of the breast and draw for itself.

(To be continued)

Martyrs of Science.—Unhappily every important new development in human knowledge brings its martyrs. When Langerhans, in 1896, lost his 2-year-old son—the first definitely recorded death following the use of serum—ignorance and wilful prejudice sought to attribute it to antitoxin. No one was yet sufficiently alert to see the great significance to humanity of the phenomenon that most likely was the cause of this pitiful sacrifice.—R. G. Eccles in *Medical Record*.

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[For other information see second page following reading matter]

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THE ACTION OF TROPICAL SUNLIGHT

Modern investigation of tropical diseases has been so successful that in our enthusiasm we are apt to consider these as the only influences deleterious to life in warmer climates. It must be remembered, however, that the physical peculiarities of the tropics also have their effect on the animal economy—an effect the exact importance of which it is difficult to estimate. These various physical factors of a tropical climate are being studied, and Aron[1] in recent articles gives the results of his investigations on the effect of tropical sunlight on the living organism.

It is obvious that sunlight in equatorial and subequatorial regions will be more potent than that of more temperate zones; for not only does the perpendicular course of the rays make the intervening protective layer of the atmosphere relatively thinner, but it also results in a greater intensity of illumination for any exposed area. The actual occurrence of this greater power is readily shown by measurement of the chemical activity of tropical sunlight as compared with that of colder latitudes; and, possibly as a result of such experiments, the idea has been prevalent that the harmful effect of sunlight is primarily due to the chemically active (actinic) rays. It was because of this idea that orange-colored underwear was tried on soldiers in the Philippines—an experiment that, as is well known, was unsuccessful. The other view, that it is the infra-red heat rays that are most powerful for harm, is held by Aron, and he advances experimental evidence in its support.

In the temperature regulation of a normal isothermic animal, two opposite tendencies are constantly closely balanced, heat production and absorption being neutralized by various devices for giving off heat. Should the production or absorption of heat reach a point beyond the compensating powers of the eliminating mechanism, or should this latter for any reason fail to act properly, heat is retained in the body, and a rise of temperature follows. Thus, if a dead animal, in which the heat dissipating devices are of course inactive, be hung in the warm sunlight, its superficial temperature will rise rapidly, and its deep, rectal temperature will rise also, but more slowly. A living animal, on the other hand, while absorbing heat at the same rate, will avoid its retention by increased elimination, with the result that the surface rise will be unaccompanied by the increase of deep temperature. So, for instance, a dog in these circumstances may attain a surface temperature of over 104 F., while the rectal temperature will not have risen beyond 101 or 102. But its rapid respiration and lolling tongue will give evidence of the means taken to attain this result. If the dog be tracheotomized, so as to cut off this method of heat dissipation, rectal and subcutaneous temperature will both rise, and the animal will rapidly succumb. The magnitude of the heat elimination by vaporization of body secretions may be judged by the fact that rabbits in the sunlight were found to lose in this way from six to seven times as much weight as their sheltered fellows.

The most interesting results were obtained with apes. In these, the superficial temperature is normally ½ to 1 degree lower than the deep temperature, but on exposure, if only for a few minutes, to sunlight, this relation became reversed; if exposed long enough to cause death —which takes only a short time for these animals—the superficial temperature exceeded the deep by one-half a degree. Shaving the animals emphasized these differences, and shortened the fatal period markedly. If a current of air was kept in circulation over the exposed animal, however, it became capable of resisting the action of the sunlight indefinitely. Conclusive evidence against the supposed direct action of the actinic rays on the meninges was afforded by a simple experiment. An ape was encased in a double-wall box in such a way as to expose its head only to sunlight. Absolutely no harm resulted to the animal, although a superficial scalp temperature of 116.5 F. was attained.

The effect of sunlight on human beings was also studied. The normal human superficial temperature was found to range from 90 to 92 degrees F., but on exposure to sunlight this rose rapidly to 96 and 97 degrees. Farther exposure resulted not in farther rise, but in an actual drop of one-half or one degree, coinciding more or less closely with the appearance of perspiration. With muscular exertion, this fall was both greater and more rapid. In general, colored individuals did not attain as high superficial temperatures as did the whites, although from the greater absorptive powers of pigmented skin the reverse would be expected. This Aron believes to be due to the earlier onset of perspiration, possibly occasioned in part by the greater heat absorption. Visible perspiration, however, is less marked in colored than in white races, but as he points out, it is the invisible, vaporized perspiration that is effective in temperature reduction, and there is a distinct possibility of "economy of sweat" in races habitually requiring its protective influence. Aside from this, colored individuals have an advantage in their ability to go uncovered without danger of the painful solar dermatitis to which whites are so subject.

1. Berl. klin. Wchnschr., 1911, xlviii, 1115; Philippine Journal of Science, April, 1911.

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The chief importance of Aron's work lies in its overthrow of the "actinic theory" of solar action. It is obvious that this more correct knowledge of the effect of the sun's rays makes possible the adoption of rational means of protection against them, and so affords an additional step toward increasing the habitability of the tropics for races of northern origin.

ORGANIC MATTER IN EXPIRED AIR

Most of us are aware by experience of the acute discomfort that may be caused by continued reinspiration of expired air. And the assurance of experimenters in this field that this is mainly the result of the unduly high temperature and moisture content of the air has scarcely seemed adequate to explain a phenomenon so pronounced. Indeed, aside from the testimony of everyday experience, the evidence as to the toxicity of impure air is itself of a most contradictory character. Thus, while Hammond, Brown-Séquard and d'Arsonval, and Davis secured results pointing unmistakably toward such toxic action, a considerable number of other observers, some of them duplicating the methods of Brown-Séquard and his fellow workers, have come to the opposite conclusion. It has been shown with practical certainty that air expired during normal quiet respiration is almost wholly free from microorganisms, so that in the absence of droplet infection any immediately harmful effects of impure air can scarcely be ascribed to bacterial contamination; and with the failure to demonstrate other impurities, the assumption that it is entirely the moisture and temperature of expired air that produce discomfort, has reached wide-spread acceptation.

In view of this conclusion, much interest attaches to recent work by Rosenau and Amoss,[1] in which they have apparently found in used air, by means of the anaphylactic reaction, minute quantities of organic matter. Their method was to collect the condensed vapors from human breath, to inject these into guinea-pigs, and after a suitable interval, to reinject these animals with small quantities of human serum. In all, ninety-nine animals were so tested in twenty-five different experiments, and of these twenty-six gave definite evidence of an anaphylactic reaction. The experiments were carefully controlled bacteriologically. Unfortunately no description of the methods followed in collecting the air, beyond diagrams of the apparatus used, is given, and there is a possible doubt as to the freedom of the condensed vapors from contamination with material mechanically carried over. It is true that as a control on this possibility, a number of guinea-pigs were tested similarly with human saliva, with negative results; but it is difficult to understand why saliva, which would apparently be saturated with air and whatever impurities might be in the air, should fail to give the same reaction as the condensed vapors.

[1] Jour. of Med. Res., 1911, xxv, 35.

While it would seem that further work might be desirable to establish beyond doubt the presence of organic matter in expired air, it is evident that the results just presented, if so confirmed, will be of marked interest and value. For although no evidence has been adduced as to the toxic character of the organic matter, the mere demonstration of its presence is a marked advance on our present knowledge of the action of impure air. It would seem also, as Rosenau and Amoss point out, to clear up the problem of the anaphylactic reaction sometimes observed after the first injection of foreign serum, particularly diphtheria antitoxin. And finally, it would serve as an instance of a phenomenon hitherto wholly unsuspected—the volatilization, or gaseous solution, of a substance of the complex composition and high molecular weight of the proteins.

THE CHARGE AGAINST DR. WILEY

III.—THE DENVER MEETING

While the decision of the President disposes of the charges and completely vindicates Dr. Wiley, the evidence presented before the congressional committee is so interesting and illuminating on other subjects that we continue to present to our readers extracts from this testimony.

This week, these extracts relate to the meeting of the Association of State and National Food and Dairy Departments in Denver, in 1909. At the previous meeting, at Mackinac Island, in 1908, resolutions had been adopted deploring the failure of the Secretary of Agriculture to cooperate with the state food departments in the development of uniform standards and the enforcement of pure food laws. At the same meeting, the retiring president, Prof. E. F. Ladd of North Dakota, in his presidential address, referred to the Remsen board as a "specially constituted board of doubtful constitutionality," standing between Dr. Wiley and "the interests." He emphasized the need of uniform standards for the proper enforcement of state and national food laws and deplored the lack of cooperation between the state authorities and the Department of Agriculture. Furthermore, a few weeks before the Denver meeting, the American Medical Association had adopted resolutions urging Congress to amend the Food and Drugs Act so as to prohibit the use of benzoate of soda as a preservative.

The Denver meeting was selected by the reactionaries and the manufacturers of adulterated food products as an opportunity to counteract the rapidly growing sentiment against the use of preservatives in foods. The testimony shows, what has long been popular knowledge, that every effort was made by the Secretary and by many employees of the Department of Agriculture to control the meeting. It should have been a dignified gathering of representative scientific men, deliberating on ways and means of enforcing the pure food laws for the protection of the people. It degenerated into a semipolitical

Donnybrook fair, in which any means were used to secure and to retain votes. Solicitor McCabe's testimony shows that he was not only present at the head of the delegation from the Department of Agriculture, but that, several weeks before the meeting, he went West to round up as many votes as possible to back up the referee board and to discredit Dr. Wiley. McCabe says, "I interviewed every man I met that would probably come to the convention and I asked every man of that kind I met to uphold the department when he got there." The Remsen board, which had been conveniently sent to California, stopped at Denver on the way East, and so was present at the meeting. Professor Remsen says that the board was "requested," and not "directed," to attend the Denver meeting, but Secretary Wilson's formal letter of Aug. 6, 1909, sounds strangely like an order. Professor Remsen says in his letter of June 30, 1909, that the board is "anxious . . . to get things on a solid, scientific, common-sense basis." This was a highly commendable attitude on the part of the Referee Board, but if the question was to be settled on a scientific basis, where was the necessity of McCabe's electioneering activities? When have scientific men settled doubtful questions by popular vote and by political methods rather than by carefully considered evidence?

It also seemed odd at the time, and even at this late day it reads strangely, that, in spite of the presence at this meeting of scientific men, of the Secretary of Agriculture, a member of the official family of the President of the United States, of the entire Referee Board, of several employees of the Department of Agriculture, to say nothing of swarms of lobbyists and agents of borax companies and catsup manufacturers—in spite of all this assistance for the establishment of a scientific truth, benzoate of soda was "vindicated" by the vote of nineteen states to fourteen states, with three not voting. Rather a barren victory for a "scientific proposition."

The Denver meeting has passed into history. Some of those who attended this meeting and participated in its deliberations doubtless thought, when the meeting adjourned, that the benzoate question was settled and would return no more to annoy them. But, alas, two years later, all the details of this meeting and of the "scientific" way in which this question was settled, are brought out before a congressional committee. Nor is this all. Unless the leaders of the Democratic majority in the Lower House are blind to a great opportunity to act for the public good, next winter will see the same question again ventilated on the floor of Congress. *Hæc fabula docet* that a question is never settled until it is settled right.

IV.—THE CASE OF DR. ROBISON

Probably the most incredible single act disclosed by the hearing before the congressional committee was the treatment of Dr. Robison of Michigan by the Secretary of Agriculture. Dr. Robison, formerly State Chemist for Michigan, was duly appointed on a per-diem basis as a civil-service employee of the United States Department of Agriculture in 1907. In other words, he was not permanently employed, but worked when called on and was paid for the time he worked. In 1909, he went to the Denver meeting of the Association of State and National Food and Dairy Departments as one of the representatives of his state. He received no pay from the Department of Agriculture for his expenses. He was not, at that time, drawing any salary from the federal government. He attended as a scientific man, representing a state government, and presumably free to hold any opinion on any question which might come before the meeting. He was appointed by the president of the Association of State and National Food and Dairy Departments as the chairman of a committee of eleven state food chemists to prepare a report on benzoate of soda. On this committee he represented the state of Michigan and not the Department of Agriculture. This committee prepared a report which "respectfully suggests to the President of the United States and the honorable Secretary of Agriculture to institute investigations along some such broader lines as indicated above." This is one of the offenses for which Dr. Robison was summarily discharged.

Dr. Robison's second offense was that he did not vote for the candidate for president of the association favored by Secretary Wilson. On this point, Dr. Robison says (letter to Secretary Wilson, Aug. 4, 1911): "My own state had a candidate for the same position, and inasmuch as I did not represent your department or draw either salary or expenses from it, I felt it my duty to support the candidate from my own state."

The third and apparently the most serious offense: Dr. Robison was summoned as a witness in the Indiana case. He was not at this time drawing a salary from the United States government. His expenses were paid by the Indiana State Board of Health. He was paid nothing for his time. He says, "I testified according to the truth, as I understood it to be and had found it from my own investigations and according to my oath, and without any regard in any capacity to any other policy." Secretary Wilson said: "You appeared . . . in opposition to the policies of the administration with regard to the reports of the Referee Board on benzoate of soda and the report of the three secretaries with regard to it."

Secretary Wilson, explaining his summary discharge of Dr. Robison, said: "I do not propose to have subordinates in my department going off on tangents that are against the decisions of the three secretaries and myself, and all that, after we have gone to the expense of hiring such noted experts and scientists as we did to make up that Referee Board. I propose that gentlemen will work in line or keep still about it."

In such ways and by such methods, has the Department of Agriculture sought to enforce its opinions regarding benzoate of soda. We reproduce (pages 1071-1072) practically all of Dr. Robison's testimony since we believe it will prove instructive and interesting.

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Current Comment

DR. WILEY EXONERATED

President Taft has exonerated Dr. Wiley of the charge preferred against him. In doing so, he has given official voice to the verdict already rendered by the American press and people. If the attack against Dr. Wiley were a mere personal fight, THE JOURNAL could allow the matter to rest here; but it was a principle, not a man, that was at stake. Dr. Wiley's enemies are opposed to him because he represents a principle—that of protection to the consumer. They would be equally antagonistic to any other individual holding the same position and actuated by the same ideas. For this reason we continue to publish the testimony that was given before the congressional committee. The evidence that was given there is of value because, for an all-too-brief space, the curtain was partly drawn aside and the pernicious activity of those interests that are arrayed against the public health was disclosed. Of the venomous and harassing tactics of McCabe and the sycophantic attitude of Dunlap in the carefully laid plot to depose Dr. Wiley, the President says nothing—at present. He does indeed hint that the demoralized condition of the Department of Agriculture will call for executive action: "The broader issues raised by the investigation, which form a much weightier relation than this one to the general efficiency of the department, may require much more radical action than the question I have considered and decided." If by these words President Taft means that he will, at the earliest convenient opportunity, sever the connection of McCabe and Dunlap with the government, he will find that he is merely expressing the opinion of the American people as to what should be done in this matter. Meanwhile, congratulations are due to the President on the wisdom of his decision, to Dr. Wiley, on being exonerated from the malicious and unfounded charge, and to the people of the United States, because they still have Dr. Wiley to stand between them and the food adulterators.

ALBRECHT KOSSEL

The series of lectures which is supported at Johns Hopkins by the endowment of the late Dr. Christian Herter, will this year be given by Prof. Albrecht Kossel, professor of physiologic chemistry at the University of Heidelberg. In 1910 Professor Kossel was awarded the Nobel prize in medicine in recognition of his researches on the composition of the constituents of the nuclei of cells, especially on the nucleins and their components, a summary of which is given in his address on "Die chemische Beschaffenheit des Zellkerns,"[1] delivered at the time of the award of this prize. Kossel's studies are of fundamental importance in biologic chemistry, and the award of the highest honor in medicine was richly deserved and universally approved, although as yet the results of his work have not found direct application in the practice of medicine. He had already made extensive and productive investigations into the composition of the proteins at the time when Emil Fischer, turning aside from his triumphs in the chemistry of the purins and of the carbohydrates, introduced new methods for the isolation of the constituents of the protein molecule and with swift strides dominated this field. While Fischer's work added especially to our knowledge of the mono-amino-acids of proteins, Kossel placed on a firm footing the study of the diamino-acids, which occur in especially large proportions in the nuclear proteins of germinating cells. The simplest proteins known, the protamins, consist chiefly of the diamino-acids, and so prominent and constant a part of all proteins is formed by one of these diamino-acids, arginin, that Kossel advanced the hypothesis of an arginin nucleus for all protein molecules. With his students Kossel has also made extensive investigations on the non-protein elements of nuclear material, namely, the purins, the pyrimidins and the carbohydrate radicals. To the many American students in Heidelberg Professor Kossel is known as a most interesting and lucid lecturer on a difficult topic, and he will find in America many old pupils not only in the science faculties, but also among practicing physicians.

1. Kossel: Munchen. med. Wchnschr., 1911, lviii, 65.

SECTARIAN LICENSING BOARDS—AN OBJECT-LESSON IN PENNSYLVANIA

It has been repeatedly asserted that higher standards of medical licensure will not be uniformly effective so long as the enforcement of such standards depends on different boards representing and favoring different medical sects. That such an arrangement provides makeshifts whereby unfit candidates are enabled to secure licenses has long been known; Pennsylvania has demonstrated this very effectually. In that state responsibility for the enforcement of the medical practice act was parceled out to three separate boards, regular, homeopathic and eclectic. As may be noted in the report of the last examination, published this week,[1] out of forty-one candidates examined by the eclectic board only seven were graduates of eclectic colleges and two held diplomas from a nondescript institution, while thirty-two, or 78 per cent., were graduates of so-called regular medical colleges! Of these thirty-two, it also should be noted, twenty-five were graduates of a single medical school, rated in Class C by the Council on Medical Education — the Maryland Medical College of Baltimore. Further, official reports show that during the last three and a half years only seventeen graduates of eclectic colleges have been examined by the Eclectic Board of Pennsylvania and every one of these seventeen passed and received a license to practice medicine; during the same period, however, this eclectic board examined 117 graduates of regular and homeopathic colleges. Incidentally, as might be expected, these 117 came chiefly from notoriously low-grade institutions — and only seven failed! Happily, however, Pennsylvania has adopted a new medical practice act, providing for a single board of medical examiners, which will become effective the first of next year. If this practice act is properly enforced it will put a stop to such makeshifts in the licensing of physicians as have been reported from Pennsylvania for several years past. In this day of

1. Page 1077, this issue.

scientific medicine, there is no excuse for laws which place the responsibility for their enforcement in the hands of from two to four special and avowedly prejudiced boards. The people of Pennsylvania are certainly to be congratulated on the change soon to take place in their state, a change which comes none too soon.

Medical News

ILLINOIS

Personal.—Dr. Sidney D. Wilgus, superintendent of the Elgin State Hospital, has been appointed superintendent of the Kankakee State Hospital, vice Dr. Frank P. Norbury, appointed a member of the State Board of Administration to succeed Dr. James L. Greene, Springfield, resigned, to take charge of the Arkansas State Hospital, Little Rock.——Dr. Emerson M. Brewer, Rantoul, local surgeon, has been promoted to district surgeon for the Illinois Central system.——Dr. L. M. Griffin has been appointed local surgeon at Polo for the Illinois Central system.——Dr. Wallace Blanchard, Chicago, has returned from Europe.

INDIANA

State Society to Have Banquet.—For the first time in twenty-two years the Indiana Medical Association will have a banquet at its annual meeting which is to be held in Indianapolis, September 28 and 29. On the days preceding and following the meeting, clinics will be held at the city hospital.

New City Hospital.—A committee of physicians of Indianapolis, consisting of Drs. Samuel E. Earp, J. Rilus Eastman and James H. Ford, appointed by the board of public works, have prepared specifications for a new city hospital, with accommodation for 500 patients. The plans follow closely those of the Harvard Hospital.

Personal.—Dr. A. P. Schier, Evansville, has been appointed first assistant physician in the Indiana Southern Hospital for the Insane, vice Dr. John F. Glover, resigned.——Dr. John Medaris, Brookston, who has been seriously ill is reported to be improving.——Dr. John W. Ballard, Logansport, had a slight cerebral hemorrhage in his office, September 9.

Rules Regarding Communicable Diseases.—The Indianapolis Board of Health has adopted the following rules for medical inspectors in the city schools: Any child having a communicable disease shall be excluded from the school; all children of a household where there is diphtheria, scarlet fever or small-pox shall be excluded from school; all children of a household where there is whooping-cough, chicken-pox or mumps may attend school except the child having the disease; all children of a household where there is measles may attend school except the child having the disease and the child who has not had the disease. Six physicians have been added to the staff, making now a total force of twenty-six inspectors of public schools.

KENTUCKY

Money for Health Exhibit.—Dr. W. E. Grant, health officer of Louisville, will make application to the city for an appropriation of $3,000 for Louisville share toward the erection of a permanent building on the Kentucky State Fair Grounds for health exhibit. The State Board of Agriculture will, it is thought, also appropriate $3,000 toward the project.

Personal.—Dr. Louise B. Triggs, Lakeland, has been appointed physician to the female department of the Hopkinsville State Hospital.——Dr. Herbert Bronner, Louisville, was attacked in his office by an insane patient armed with a revolver, but fortunately escaped injury.——Dr. Nathan R. Simmons, health officer, Lexington, is ill at his home with rheumatism.

State Board Meeting.—At the meeting of the Kentucky State Board of Health held in Louisville, September 13, Dr. John G. South, Frankfort, was elected president. Dr. Joseph M. Mathews, Louisville, in nominating Dr. South stated that since the organization of the board the office of president had been held by older men, and he was in favor of recognizing the younger members of the board. Dr. William A. Quinn, Henderson, and Dr. Joseph M. Mathews, recent appointees, were sworn in as members of the board. Dr. Mathews' term had expired, and Dr. Quinn had forfeited his membership by being elected a member of the Henderson Board of Education, but on his resignation from this board, was reappointed a member of the State Board of Health.

LOUISIANA

Free Medicine Commission.—The mayor has appointed the following commission to administer the Sickles fund for the free distribution of medicine: Drs. Sara T. Mayo, William T. O'Reilly, Joseph A. Danna and Marion Souchon, Rev. J. C. Barr and Messrs. E. H. Singreen and A. B. Tippin. The fund now aggregates about $108,000, of which only the interest, which amounts to about $5,000 a year, can be used.

Brief of Work of State Board.—During the last fiscal year the work performed by the State Board of Health includes the tour of the health exhibit train through Louisiana and several other states, in the interest of sanitation and hygiene; the abolition of the public drinking-cup and towel; the appointment of commercial travelers as subsidiary inspectors; the regulation of barber shops; the adoption of model vital statistics; the registration of dairies; formulation of the plan for distribution of antidiptheria serum for the poor, and the adoption of a report covering the work of a year made on the condition of the waters of Bayou Teche.

MARYLAND

Baltimore

Herter Lectures.—The sixth course of lectures on the Herter foundation will be given October 4, 5 and 6, in the auditorium of the physiologic building of Johns Hopkins University, by Dr. Albrecht Kossel, professor of physiology, and director of the physiologic institute of the University of Heidelberg. The subjects of the lectures will be "Proteins" and "Metabolism." The lectures will be given at 4 o'clock, and physicians and students are cordially invited to attend.

Personal.—Dr. Harry Friedenwald arrived home from Palestine, September 12, and says that he does not intend to make his future home in Asia, but expects to remain in Baltimore.——Drs. Mary Sherwood and Lillian Welsh are attending the International Congress for the Study and Prevention of Infant Mortality, in Berlin.——Dr. Thomas R. Brown sailed for Europe, August 24.——Dr. F. Oehlecker, Hamburg, who is making a study of hospitals in the United States, visited Baltimore, September 8.

MINNESOTA

Personal.—Dr. Webber, Leech Lake, has been made physician at the San Juan Indian Agency, Shiprock, N. Mex., vice Dr. Lewis C. Day, transferred.——Dr. E. H. Bailey, St. Paul, has been appointed superintendent of the Wabasha County tuberculosis sanatorium.——Dr. John S. Holbrook has been re-elected president, and Dr. William A. Beach treasurer of the board of education of Mankato.

MISSOURI

New Building at Sanatorium.—A new building has been completed at the State Sanatorium for Tuberculosis, Mt. Vernon, which will accommodate about seventy-five patients, thus doubling the capacity of the institution.

Personal.—Dr. James A. Waterman, Kansas City, formerly physician at the penitentiary, has been appointed superintendent of the Farmington State Hospital. Drs. William S. Hutton, Fornfelt, and John A. Tiller, Bloomfield, have been appointed assistant physicians at the same institution.

A Bnai Brith Sanitarium.—A canvass was commenced in St. Louis, September 15, to raise $75,000 as a building fund to erect a nonsectarian sanitarium at Hot Springs, Ark., under the auspices of Independent Order of Bnai Brith, a Jewish fraternal organization. The sanitarium will be for the benefit of dependent sufferers from rheumatism and blood diseases.

Medical Library Club Established.—A medical library is to be established in Kansas City, with rooms on the thirteenth floor of the Rialto Building. The greater number of the office rooms in the building will be occupied by physicians, and the owner has devoted the entire west wing on the thirteenth floor to space for the library, free of charge. The club now has sixty members, one of whom has promised to lend his own medical library. The membership is divided into three groups, and $2,000 has been already subscribed for the institution. The committee on organization consists of Drs. Edward H. Skinner, Arthur E. Hertzler, Jabez N. Jackson, Franklin E. Murphy, Harold P. Kuhn, William J. Frick, Richard L. Sutton, Howard Hill, Robert M. Schauffler and Herman E. Pearse.

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St. Louis

College News.—Barnes University, according to an announcement made to the alumni at a banquet recently, is now free from debt. Dr. Charles H. Hughes renews his affiliation with the school and is president of the board of trustees.——Rumors of the absorption of the American Medical College and the College of Physicians and Surgeons have been revived.

Woman's Society for Pure Food.—A woman's movement has been started with the object of stamping out impure food products, following a meeting September 14 at which simple tests for detecting impure foodstuffs were demonstrated by Mr. Rhey McCord, manager of the pure food exhibit. Mrs. W. E. Fischel was elected chairman of the temporary organization, with instructions to submit plans for the permanent organization at a subsequent meeting.

Hospital Thief.—Several physicians have been robbed recently by a sneak thief who, declaring himself a country physician desirous of witnessing operations, would be given the freedom of the hospital and privilege of presence in the operating room. He then would leave the room before the operation was finished and pilfer money and valuables from the physicians' clothing. Physicians at the University, St. Anthony's and St. Mary's hospitals have been thus victimized.

Hospital Situation.—Mayor Kreismann has taken a hand in the hospital muddle and has promised that the hospital board shall receive $1,500 monthly additional for food for patients. The disclosures following an investigation by a committee of the House of Delegates aroused the people to a realization of the needs of the hospitals. The visiting staff system of treating patients has proved far superior to former methods. In addition to extra money for food, provision will be made at once for an adequate number of graduate nurses and for the instruction of student nurses at the City Hospital, and dietists will be employed at all institutions.

Upheaval Concerning Milk-Supply.—Newspapers, civic organizations and citizens have become agitated over the milk-supply owing to recent declarations by the State Food and Drug Commissioner that the milk-supply of St. Louis is the product of insanitary, ill-kept and filthy dairies in and around the city. The city chemist maintained that the city dairies were in good condition, but the investigation rather startled him by its disclosures, and he joined forces with the state commissioner for a general clean-up of the dairies. Thus far 328 gallons of formaldehyd milk have been destroyed, several dairies have been refused permission to sell milk to distributors and twenty-nine dairymen indicted for selling impure milk. In fining three of these offenders the court said the practice of selling impure milk was worse than murder; the other cases were continued. At the City Club on September 13, Dr. John Zahorsky, Mr. Bedal, an attorney, Mr. Lange, a milk dealer, and Dr. Max C. Starkloff, health commissioner, spoke on the subject. The result of these efforts for a pure milk-supply showed that little had been done because of legal complications and the crux of the situation was well stated by Mr. Bedal and Dr. Starkloff who declared that the only effective method of securing clean milk was to establish a system of licensing the dairies by the board of health, such license to be revokable by the board. The dairymen have successfully resisted previous efforts to establish this system. At present action against refractory dairymen can be had only by the tedious and utterly inadequate procedure of prosecution in the courts.

NEW MEXICO

Personal.—Dr. Lewis Clinton Day has been transferred from the position of physician to the San Juan Indian Agency, Shiprock, and has been made resident physician at the Haskell Indian Institute, Lawrence, Kan.

State Society Meeting.—The thirtieth annual meeting of the New Mexico Medical Society was held in Las Vegas, September 6-9. Roswell was selected as the next meeting place, and the following officers were elected: president, Robert L. Bradley, Roswell; vice-presidents, Drs. Le Roy S. Peters, Silver City; M. F. Marais, Las Vegas; James J. Shuler, Raton; secretary, Dr. Robert E. McBride, Las Cruces; treasurer, Dr. Frank E. Tull, Albuquerque; councilor, Dr. Edwin B. Shaw, Las Vegas; delegate to the American Medical Association, Dr. William R. Tipton, Las Vegas; alternate, Dr. Francis T. B. Fest, Las Vegas. During the session the Guadalupe County Medical Society and the Valencia Society were chartered.

NEW YORK

New Hospital.—A hospital was formally opened September 2, at Babylon. The building contains twenty-five ward beds and two private rooms and is well equipped.

Death-Rate in the State.—During July the total number of deaths in the state from all causes decreased by 438. The number of deaths of infants under 1 year was 2,590, while for July, 1910, it was 3,486. The percentage of lessened infant mortality appears to be greater in the cities than in the rural districts. Pneumonia and other respiratory diseases caused 864 deaths during July, 1911, while deaths from this cause for 1910 were 978. In July, 1911, pulmonary tuberculosis claimed 1,101 victims, 650 of whom died in Greater New York. The deaths from typhoid fever show an increase over those of the previous year. In July, 1910, there were 486 cases of typhoid fever reported, with 94 deaths, while in July, 1911, there were 641 cases with 125 deaths.

Regents to Require Full-Time Instructors.—At its last meeting the board of regents of the University of the State of New York amended its rule and now requires, that after Oct. 1, 1912, a medical college, in order to be registered in that state as maintaining a proper medical standard, must have at least six full-time salaried instructors, giving their full time to medical work; must have a graded course of four full years of college work in medicine, and must require for admission not less than the usual four years of academic or high school preparation, or its equivalent, in addition to the pre-academic or grammar school studies. This agrees with the definition of a medical college adopted in 1910 by the Council on Medical Education of the American Medical Association.

New York City

Work of the Season at Sea Breeze.—Junior Sea Breeze, the summer emergency hospital for sick babies, conducted by the Association for Improving the Condition of the Poor, closed its season on September 7. The visiting nurses made 4,098 visits during the summer and instructed 1,321 mothers.

Two Physicians Have Septicemia.—Dr. Edward H. Quinn is in a very serious condition as a result of blood-poisoning contracted while operating on a ward patient in St. John's Hospital.——Dr. John A. Bodine, who was called in to operate on Dr. Quinn, developed septicemia the day following the operation. Dr. Bodine's condition has not been regarded as serious.

School Children Have Poor Teeth.—The first report of the School Dental Hygiene Council, which was appointed about a year ago to make an examination of school children's teeth, shows that about 60 per cent. of those so far examined have defective teeth. As a result of this investigation it is believed that there will be a regular system of dental inspection and clinics for the schools.

Inebriety Board Holds Meeting.—The recently-appointed Inebriety Board held its first business meeting September 12. The board has decided to call on the police to furnish data as to all arrests for intoxication after October 1. It was also decided to acquire land within 35 miles of New York City for a site for three hospital buildings, the cost of the site and buildings to be about $550,000.

Smoke Nuisance Abated.—New York is practically free from the smoke nuisance and this is due to the work of the Health Department in enforcing the amendment to the sanitary code which went into effect a little over a year ago. During this time 2,000 arrests have been made and $6,000 has been collected in fines. This result has been accomplished by compelling all who burn soft coal to use smoke consumers.

Cholera in New York City.—During 1911, steamers arriving from Italy brought cholera to New York City, the first case arriving on the *Carpathia*, June 7, and the last, up to the present time, on the *Kocnig Albert*, August 17. So far forty-four cases have been stopped at quarantine. In the city only three cases were found. This is the first time since 1892 that the sanitary authorities have been called on to deal actively with Asiatic cholera.

Typhoid in the Bronx.—For the seven weeks previous to September 9, there were 180 cases of typhoid fever in the Bronx as against eighty for the same period of 1910. Since January 1 there have been twenty-two cases in that borough as against 178 for the corresponding time in 1910. The typhoid situation in the greater city has practically cleared up except in the Bronx. Up to the year ended September 9 there have been 1,898 cases in the greater city since January 1, as against 1,963 last year.

Harvey Society Lectures.—The Harvey Society has secured the following lecturers for the coming season: Prof. Walter B. Cannon, Harvard Medical School; Prof. R. H. Chittenden, Yale University; Dr. Simon Flexner, Rockefeller Institute; Prof. H. S. Jennings, John Hopkins University; Prof. Albrecht Kossel, University of Heidelberg; Prof. H. F. Osborn, Columbia University; Dr. James J. Putnam, Harvard Medical School; Prof. T. W. Richards, Harvard University; Prof. W. T. Sedgwick, Massachusetts Institute of Technology; Dr. William S. Thayer, Johns Hopkins Medical School, and Prof. Verworn, University of Bonn. The following lectures will be delivered during October: "Local Specific Therapy of Infections," by Dr. Simon Flexner, October 7; "The Chemical Structure of the Cell," by Prof. Albrecht Kossel, October 14; and "Anesthesia," by Prof. Verworn, October 28.

Personal.—Dr. Simon Flexner, director of the laboratories of the Rockefeller Institute of Medical Research, has been awarded the Cameron Prize in Practical Therapeutics by the University of Edinburgh. The award was made in recognition of Dr. Flexner's work in cerebrospinal meningitis and its treatment with antimeningitis serum. In accordance with custom Dr. Flexner has been invited to deliver an address at the University of Edinburgh some time during the coming academic year.——Drs. Henry W. Frauenthal and Charles L. Dana have returned from Europe.——The country home of Dr. Charles McBurney at Stockbridge, Mass., was robbed, September 13. The articles taken were mostly jewelry and the loss is estimated at $5,000.——Dr. Samuel J. Meltzer, president of the Rockefeller Institute for Medical Research, has been elected a member of the German Imperial Academy of Natural Sciences.

Buffalo

Cornerstone Laid.—The cornerstone of the New German Deaconess Hospital was laid with appropriate ceremony, September 10.

Crusade Against Milkmen.—The department of health has instituted a crusade against milkmen who sell milk which does not come up to the standard requirements, or in other words, is adulterated. After due notice, warrants were sworn against about fifty milkmen.

Personal.—Dr. Matthew D. Mann, Dr. Irving M. Snow and Dr. George A. Himmelsbach, have returned from Europe.——Dr. Burton T. Simpson, Dr. Maud J. Frye and Dr. Charles A. Bentz have gone abroad.——Dr. Otto R. Eichel has been appointed chief of the tuberculosis division of the Bureau of Vital Statistics.

PENNSYLVANIA

Tuberculosis Crusade.—The directors of the Pennsylvania Society for the Prevention of Tuberculosis, September 13, agreed to arrange for a state exhibit by means of which the unsanitary conditions of many houses will be shown. The exhibition will be given in a number of cities and towns in the state during the winter.

Inspection of School Children.—State Health Commissioner Dixon is preparing to make the medical inspection of school children authorized by the new school code. The inspections will be made in 785 school districts, which means that 250,000 children will receive the direct benefits of this important work. The inspectors will also make a thorough investigation of the sanitary conditions existing at the schools. They will be instructed to note the age and sex of the pupil, the condition of sight, hearing, respiration, skin, teeth, cervical glands, contagious diseases, pulmonary tuberculosis and deformities. In recording the deformities they will be classified as those of the spine, the chest and the extremities. Those of the extremities will be further described as congenital or acquired. Each eye will be tested separately, using Snellen's chart at 20 feet. The presence of blepharitis, conjunctivitis, iritis or trachoma or any affection of the cornea will be observed. Each ear will likewise be tested separately for accuracy of hearing by whispering at 20 feet. The presence of a discharge from either ear will be watched for and its nature observed. Defective teeth and nasal breathing will be noted. Enlargement of the cervical glands will be observed. With regard to nervous conditions the existence of chorea or epilepsy will be stated, and the general condition of nutrition. If indications of present or recent contagious disease are found, note will be made of the fact and the exclusion of the child and its brothers and sisters at once ordered. Under no circumstances will the medical inspector advise as to the selection of a physician or communicate with the family of a pupil personally with regard to the results of the examination, all reports to the family being made directly from the department. On receiving the reports at the central bureau in Harrisburg, the chief medical inspector and his assistants will go over them very carefully and letters will be written to the parents of children in whom physical defects have been found, calling attention to these defects and suggesting that the child be taken to the family physician for more detailed examination and treatment.

Philadelphia

Resignations.—Dr. Daniel W. Fetterolf has resigned as demonstrator of chemistry and toxicology in the University of Pennsylvania, to accept the position of acting assistant surgeon in the U. S. Army, with a permanent station in New York.——Dr. Howard T. Karsner has resigned as demonstrator of pathology in the same institution to accept the position of assistant professor of experimental pathology in Harvard University.——Dr. Borden S. Veeder, assistant demonstrator of pathology in the University of Pennsylvania, has resigned in order to accept the position of assistant in the department of pediatrics in Washington University, St. Louis.

Baby Hospitals Successful.—The Race Street Pier, which opened on June 15, with thirty-five beds and nursed back to life fully 500 babies during the summer, closed its season, September 15. The Wynnefield Babies' Hospital and the Chestnut Street Pier will probably remain open until October 1, when the most active baby-saving campaign that has ever been carried out in this city will terminate for another year. The following statistics show the reduction in infant mortality. The number of children under 2 years of age who died of summer complaint during June, July and August, 1910, was 1,258, while in the corresponding months of this year, only 924 died, a reduction of 234, or 18.6 per cent.

Dental Clinic Opens.—The free dental clinic for the treatment of school children's teeth opened September 15. It is on the seventh floor of city hall and is under the charge of Dr. P. B. McCullough. The plan this year is to have the dentists visit the schools, examine the pupils and make a note of those whose teeth need attention. This note will be given to the teacher to forward to the parents, with a recommendation that the child either be sent to the family dentist or to the city hall clinic. After a child's mouth has been put in good condition, he is given a tooth brush and a box of tooth powder and is instructed in the care of the teeth. Last year 2,561 patients were treated in the clinic.

Contagious Diseases Hidden.—A reduction in the mortality from most of the preventable diseases is noted for the first eight months of this year as compared with the same period of 1910, as follows: tuberculosis, 15 per cent.; typhoid fever, 23 per cent, and pneumonia, 12 per cent. This does not hold true with diphtheria and scarlet fever, however. Through the newspapers, Dr. Joseph S. Neff, director of public health and charities, has called attention to the continued prevalence of these diseases, and asks the public to cooperate with the health authorities in carrying out the instructions of physicians and health officers. He states that many persons, to avoid the necessary restrictions, do not send for a physician in order that the case may not be reported.

University Changes.—Announcement has been made of changes in the medical department of the University of Pennsylvania. A fuller course in toxicology is announced for the second year class, the second half of the term under the charge of Dr. John Marshall and his staff in the Hare laboratory. There will be also a department of physical therapy under the charge of Dr. R. Tait McKenzie. The changes in titles and duties in the teaching staff follow: Dr. Gwilym G. Davis assumes charge of orthopedic surgery in place of the late Dr. DeForest Willard; Dr. T. Turner Thomas becomes associate professor of applied anatomy; Dr. Alfred Stengel assumes the chair of medicine in place of Dr. David Edsall, resigned; Dr. M. Howard Fussell has been advanced to the chair of applied therapeutics, this department being created under the chair of medicine, in place of the position of professor of clinical medicine vacated by Dr. Alfred Stengel; Dr. George W. Norris is advanced to assistant professor in medicine; Drs. Ringer and Rose assume the duty of instructor and assistant instructor in physiological chemistry; Dr. Oscar H. Plant becomes demonstrator of pharmacology; Dr. R. M. Pearce has withdrawn from the chair of pathology and will confine his work to the chair of research medicine, and Dr. Allen J. Smith returns to the charge of the department of pathology, retaining at the same time the directorship of the laboratories of comparative pathology and tropical medicine.

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State Association Meeting.—The seventeenth annual meeting of the Utah State Medical Association will be held in Salt Lake City, October 4 and 5, under the presidency of Dr. Frederick W. Taylor, Provo. A banquet is to be given to the association by the Salt Lake County Medical Association, October 4. At the first session an address will be delivered by Dr. Joseph N. MacCormack, Bowling Green, Ky.

New Members of Faculty.—The new list of the faculty of the University of Salt Lake includes the following appointments and changes: Dr. Joseph Peterson, professor of psychology in the Brigham Young University, Provo, professor of psychology; Dr. Perry G. Snow, professor of anatomy; Dr. Ralph L. Byrnes, professor of bacteriology and pathology; and State Bacteriologist and Pathologist Dr. Charles T. Voorhies has been made acting dean of the school of medicine, and Dr. Henry A. Mattill has been promoted from assistant professor to associate professor of physiology and physiologic chemistry.

WASHINGTON

Personal.—Dr. John B. McNerthney, Tacoma, left for Europe, September 9.——Dr. John W. Mowell, Olympia, has been appointed chief physician of the state's commission on industrial insurance.——Dr. C. J. Brobeck has been appointed assistant health officer of Tacoma.——The board of education of Bellingham has declined to accept the resignation of Dr. William R. Gray as president.——Dr. James F. Cropp has been elected mayor of Walla Walla.

State Society Meeting.—At the twenty-second annual meeting of the Washington State Medical Association held in Spokane, September 5 to 7, the following officers were elected: president, Leon L. Love, Tacoma; president-elect, William C. Cox, Everett; vice-president, Dr. George N. McLoughlin, Seattle; secretary, Dr. Curtis H. Thomson, Seattle (reelected), and treasurer, Dr. Herbert E. Coe, Seattle. Tacoma was chosen as the place of meeting for 1912.

WEST VIRGINIA

Tri-County Society Meeting.—At the annual meeting of the Barbour-Randolph-Tucker County Medical Society, held in Elkins, September 5, the following officers were elected: president, Dr. Edmond J. Horgan, Jenningston; vice-presidents, Drs. Albert S. Bosworth, Elkins; E. Mendel Hamilton, Belington; secretary and treasurer, Dr. Ernest B. MacIntosh, Elkins; and censor, Dr. W. Hoddis Daniels, Elkins, reelected.

County Society Reorganized.—The physicians of Preston County met in Kingwood, August 23, reorganized and elected the following officers: president, Dr. Buckner F. Scott, Terra Alta; secretary and treasurer, Dr. A. G. DeFoe, Brandonville; and censors, Drs. Daniel J. Rudisill, Kingwood; Frank M. Fogle, Rowlesburg, and Dr. William F. Dailey, Terra Alta.

Antituberculosis Organization Chartered.—The Ohio County Anti-Tuberculosis League was chartered August 29, with offices in Wheeling. The league is given authority under the charter to own and transfer real property to the value of $50,000, and personal property to a similar amount, and to erect and maintain hospitals for the care of persons afflicted with tuberculosis. The incorporators are Drs. Harriet B. Jones, Eugenius A. Hildreth II, and William H. McLain, and Messrs. Jesse A. Bloch and Henry M. Russell.

WYOMING

State Society Meeting Indefinitely Postponed.—Dr. William H. Roberts, Sheridan, secretary of the Wyoming State Medical Society, announces that several unforeseen circumstances, including the failure of the Burlington system to complete its line to Thermopolis, have conspired to cause the indefinite postponement of the annual meeting of the society, which was scheduled to be held at Thermopolis, September 4 and 5.

GENERAL NEWS

Societies to Meet.—Among the society meetings that are to occur in September and October are the following:

Amer. Acad. of Ophthal. and Oto-Laryngol., Indianapolis, Sept. 25-27.
Amer. Assn. of Obstet. and Gynecol., Louisville, Ky., Sept. 26-28.
American Association of Railway Surgeons, Chicago, Oct. 18-20.
American Urological Association, Chicago, Sept. 26-27.
Assn. of Military Surgeons of United States, Milwaukee, Sept. 26-29.
Delaware State Medical Society, Lewes, Oct. 10.
Idaho State Medical Association, Boise, Oct. 11-13.
Indiana State Medical Association, Indianapolis, Sept. 28-29.
Kentucky State Medical Association, Paducah, Oct. 24-26.
Medical Assn. of the Southwest, Oklahoma City, Okla., Oct. 10-12.
Medical Society of Virginia, Richmond, Oct. 24-27.
Michigan State Medical Society, Detroit, Sept. 27-28.
Minnesota State Medical Association, St. Paul, Oct. 5-6.
Mississippi Valley Medical Association, Nashville, Tenn., Oct. 17-19.
Nevada State Medical Association, Reno, Oct. 10-12.
Pennsylvania State Medical Society, Harrisburg, Sept. 25-28.
Utah State Medical Association, Salt Lake City, Oct. 4-5.
Vermont State Medical Society, Burlington, Oct. 12-13.

FOREIGN NEWS

International Congress of Pathology at Turin, Italy.—This congress has been scheduled to meet at Turin, October 1 to 5, and extensive preparations have been made for the scientific work.

Tuberculosis Congress Postponed.—The postponement of the Seventh International Tuberculosis Congress at Rome, Italy, to April, 1912, meets with general approval on account of the prevailing dread of cholera in southern Europe. The congress was to have been held the last week of this month—September—and the work had already been well organized and numbers of important papers received.

Centennial of Christiania University.—The *Norsk Magazin for Lægevidenskaben* issues a souvenir volume, in honor of the centennial of the university at Christiania, reviewing the history of medicine in Norway during the last hundred years. It is profusely illustrated with views of old and new hospitals and asylums and portraits of the leading physicians, especially the members of the medical faculty. The work is from the pen of S. Laache, professor of internal medicine at the university.

The Zander Festschrift.—The tenth volume of the *Archiv für Orthopädie* is dedicated to Gustav Zander on the occasion of his seventy-fifth birthday. The first nine articles describe Zander's work and apparatus for medico-mechanical exercises and the opening of his institute at Stockholm, Sweden, in 1865 and of similar institutions on this model in other countries. The benefits of these mechanico-therapeutic exercises in the various internal infections are emphasized by different authors. From 1880 until recently Zander was docent of medical gymnastics at the university of Stockholm.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Sept. 9, 1911.

Reform of the Naval Medical Service

Considerable reforms have been introduced into the naval medical service, corresponding to those introduced some years ago into the army service. The rate of pay has been slightly increased for surgeons by about $180 per annum and in the higher grades proportionately. Officers are permitted to retire into private life at an earlier period than heretofore. After serving four years a naval surgeon may pass into the reserve, taking a gratuity of $2,500 and incurring no other liability than being called on to serve in time of war or emergency. This liability places no impediment in the way of private practice. But the most important reform is the establishment of a naval medical school at Greenwich. It is considered essential for the scientific development of the service that it shall possess a school of instruction and research in the vicinity of London, where it will be in close touch with the principal civil medical schools and with the army medical school at Millbank. It has therefore been decided to establish a naval medical school at the Royal Naval College, Greenwich, in close proximity to the Seamen's Hospital and the London School of Tropical Medicine. It will thus be in a position to carry out its educational and scientific work in close connection with these establishments. There are already at Greenwich excellent chemical and physical laboratories, and the additional laboratories required for medical research will be provided in the college buildings. The following new offices have been created as the nucleus of an instructional staff—a professor of bacteriology and clinical pathology, who will be a fleet surgeon with a special allowance of $750 a year, and a professor of hygiene under the same conditions. The latter will reside at the college and will be in charge of naval medical officers taking courses and for this duty will receive an extra allowance of $250. Certain alterations have been made in the regulations for the selection and examination of candidates for naval surgeons. The course of instruction after entry has been lengthened from four to six months. At the termination of the course there is an examination. An officer who fails to pass this is given a second trial and if he fails again his services are dispensed with. In future, postgraduate instruction of naval medical officers will consist of two distinct courses—a six months' course before advancement to staff surgeon and a second course for officers of not less than 14 years seniority.

The subjects of study and examination will be: (1) *Compulsory:* clinical medicine and surgery, operative surgery, anesthetics, ophthalmology, clinical pathology and hygiene. (2) *Optional:* bacteriology, throat, nose and ear diseases, and skiagraphy. The second course is designed for the purpose of affording to senior officers the opportunity of refreshing their general knowledge of surgery and medicine and familiarizing themselves with modern improvements. A small medical library of value not exceeding $50 will be supplied to each ship carrying a medical officer.

Acute Poliomyelitis Rendered Notifiable

The outbreak of acute poliomyelitis in this country, mentioned in a previous letter to THE JOURNAL, has caused the London County Council to declare this disease notifiable to the local health officers under a penalty of $10.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Sept. 8, 1911.

The Coming International Sanitary Conference

The International Sanitary Conference mentioned in a previous letter (THE JOURNAL, Aug. 5, 1911, p. 492) will meet at Paris beginning October 10, with a view to revising the articles of the conference of 1903 for the prevention of the epidemics of cholera or the plague. It will be composed of representatives from about forty states, instead of the twenty-three governments which took part in a similar conference held at Paris in 1903 which drew up the articles of the sanitary convention signed December 3 of the same year.

Agitation Among the Nurses

For some time there has been strong discontent among the male nurses, and a strike has even been declared in one of the insane asylums at Aix-en-Provence. The grievances of the nurses are to be found principally in the poorly prepared food and the unhygienic dormitories assigned to them. They also demand a discontinuance of the practice of setting aside of a portion of the salaries of probationary nurses in view of future retirement. The *Journal Officiel* recently published a very interesting report of the inspector-general of the administrative service of the ministry of the interior which disclosed the fact that in many asylums the nurses receive only $60 (300 francs) a year to start with, which may be raised to a maximum of $100 (500 francs) a year. This, as the inspector-general remarks in his report, is a smaller salary than is paid to farm hands. This low salary also explains the insufficient training of the nurses, the difficulty in recruiting the whole body, which, as Dr. Charron, director of the asylum at Dury-les-Amiens, says, is composed to a very large extent of a wandering, unstable element without interest in their work, without any professional pride, and often without even personal dignity, a class of outcasts—lazy, intemperate, and dissolute; discharged working-men or servants.

Encouraging Large Families

A departmental league of the fathers and mothers of large families has just been established at Troyes. The president has given out interesting information about the work to be undertaken and has disclosed the generous offer of Mr. G. Verbeckmoes, the proprietor of the working-men's houses at Clichy (on the Seine). He introduced into his contracts the following clause: "After a year of residence in the house, each occupant, paying less than $120 (600 francs) rent, will be allowed a rebate of a half term's rent each time that his wife is confined."

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Aug. 31, 1911.

Classical Courses in High School and College

Some water has been mingled with the wine of the hope which I expressed in my comments on the Kaiser's speech, in my last letter, regarding the appreciation of the classical course in our higher schools, according to an official statement of the North German *Allgemeine Zeitung*. In this communication attention is directed to the fact that the words of the Kaiser must not be regarded as of general application, but rather as intended only for the pupils of the first grade of the classical gymnasium at Cassel. In other words, it should be stated that the Emperor now, as formerly, adheres to his high estimate of the technical school education (*Realschulbildung*) in general. A contradiction, nevertheless, does exist between this subsequent explanation and the words of the Kaiser. It is explained, like most of the inconsistent statements which are found in the speeches of the Kaiser, by his impulsiveness in consequence of which he followed the thought of the moment without reference to his former assertions of its general relation.

That the danger, to which I have called attention, of a further depreciation of classical studies, especially the study of Greek in our gymnasiums, actually exists, is shown by a statement just published by the faculty board of the university of Giessen. This statement is as follows:

"In view of the recent repeatedly occurring efforts to abandon the study of Greek in classical gymnasiums or to materially restrict it, we declare that we must regard it as equivalent with the abandonment of the classical high-school course as a whole. While it is far from our purpose to attack the equal estimate put on the technical gymnasiums and the technical colleges in comparison with the classical gymnasia, we must still, as formerly, accord to the classical gymnasium a special importance in the preparation for all university studies, and recognize in any serious injury to such schools a grave danger for education in general. This is especially true for all important and broad subjects for which a thorough insight into the nature and connections of historical development form the foundation and necessary preliminary. We, therefore, hold it our duty to enter our protest, as early and as emphatically as possible against those injurious attempts.

"We furthermore protest against making the school responsible for the injury of our youth which we can only regard as the results of modern conditions of living, and we assert that exactly in reference to the struggle against these injurious consequences we regard any further letting down in the requirements of the schools as dangerous." This statement forms in a certain sense an answer to the publication in the North German *Allgemeine Zeitung*. If the faculties of other universities should express themselves in the same sense as that of Giessen, it is to be hoped that the authorities will thoroughly investigate the question of further school reform before the ideas which are now prevalent regarding a classical education are carried into effect.

Refusal of a Promotion

Dr. R. Geigel of Würzburg, professor extraordinary of internal medicine, has refused the title of regular professor, which has just been accorded to him. The motive of this unusual step is so far unknown; it is possible that the investigator who is now in his fifty-ninth year is offended at the fact that instead of his being appointed successor of Professor von Leube, as was formerly announced, Professor Gerhardt has been chosen as director of the medical clinic. Such a conception must be regarded as entirely unjustified, for Geigel has not done work of sufficient note to give him any claim to such an appointment.

An Alleged Prussian Epidemic Bureau

An item appeared in the daily press, a short time ago, according to which a committee had been appointed under the cooperation of the medical section of the department of the interior and the war department as well as the imperial health office, which should have for its aim the foundation of a central station for the investigation of and campaign against epidemic diseases. The active work of this central station was stated to consist mainly in testing preparations which promise to be of service in the campaigns against the most frequently occurring epidemic diseases. According to information given me from an authoritative source, the entire announcement is the product of the overheated fancy of a reporter; at least nothing is known of such a foundation by those who are in a position to know most about it.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Sept. 1, 1911.

Difficulties of Building the New Clinics

While the clinics of von Noorden and von Pirquet have been recently completed, and the first-named will be opened in a few days and the latter in October, the building of the remainder has suddenly become doubtful. The difficulty lies in the lack of money, both for building and for running the institutions. As has been explained in a previous letter, there is a certain corporate faction known as the "hospital

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fund" (Spitalsfonds), whose duty it is to provide hospital accommodations for needy patients. This "fund," though bankrupt for several years, is still in function because neither the municipality nor the local or central government acknowledge any responsibility for it, or for the existence of suitable hospital beds. Yet, the hospitals had to be kept running and the money required for this purpose was loaned to the famous bankrupt "fund"; a most amusing situation, were it not so sad. The conditions became unbearable at last and a cooperation of the famous fund with the three above-mentioned public forces brought about an arrangement by which the old hospital clinics should be transferred to the new General Hospital, and the funds necessary for this transfer should be obtained by the sale of real estate belonging to the old hospital. Thus the two gynecologic clinics, the clinic of von Noorden (medical), the pediatric and the rhino-laryngologic clinics were erected on a grand scale. The expenses of running are much higher than expected, also the building was much dearer than originally planned, and now the "fund" has no money for the necessary new clinics: two surgical, two medical, two dermatologic, one aural, two ophthalmologic clinics, one chemical and one pathologic-anatomic, besides a medicolegal institute. Already more than $4,000,000 have been expended and another $6,000,000 are wanted! The Spitalsfond has found out that it is not its duty to build any more clinics but that the ministry of education should do this; thus a deadlock has been produced. Meanwhile, the clinics remaining in the old hospital have made use of the space made vacant by the emigration of the four clinics now located in the new hospital, and the Spitalsfond asserts that they are not now in need of space for wards, and proposes to make the existing old wards over into laboratories, baths and lecture halls so that the necessity of new clinics could be done away with; for these expenses the funds are available. The news of the radical change of the old plan has caused much disappointment both in the public and among the profession, as well as in the teaching staff of the university. A conference between the mayor of Vienna, the representatives of the government and some banks has resulted in an arrangement by which sums would be furnished which would prevent this disgrace to the Vienna Medical School. But here again, the question is whether bureaucratic red-tape will not spoil this arrangement. The professors have taken the matter up and it is possible that serious consequences may follow if the new hospital should remain incomplete.

Marriages

WILLIAM SEAMAN BAINBRIDGE, M.D., New York City, to Miss June Ellen Wheeler of Yonkers, N. Y., at Grenheim, September 9.

NATHANIEL ROBERT MASON, M.D., Boston, Mass., to Miss Eunice Ireland of Winchester, Mass., at North Conway, N. H., August 31.

FRANK CARYL TOTTEN, M.D., Morristown, S. D., to Miss Charlotte Louise Hutton of Sioux City, Ia., September 1.

ARTHUR WILLIAM STILLIANS, M.D., Chicago, to Miss Therese Spitler of Vienna, Austria, in New York City, July 24.

JAMES H. KENYON, M.D., to JOSEPHINE S. HEMENWAY, M.D., both of New York City, at Glasgow, Mo., September 7.

NATHANIEL M. BASKETT, M.D., Moberly, Mo., to Miss Margaret Gore of Fulton, Mo., in London, Eng., August 26.

UPTON SHARRETTS REICH, M.D., Bridgeport, Conn., to Miss Lillian H. Kessner, at Waterbury, Conn., August 30.

FRED MCKEMY RUBY, M.D., Union City, Ind., to Miss Ethelyn Marie Butcher, at Richmond, Ind., September 7.

HERBERT BANCROFT PRIEST, M.D., Groton, Mass., to Miss Edith Houghton of Littleton, Mass., September 6.

GUSTAV LEONARD KAUFMANN, M.D., Chicago, to Miss Muriel Gregory of Fredericton, N. B., Can., September 4.

GEORGE LUTHER DAVENPORT, M.D., to Miss Eva Beulah Griffith, both of Chicago, September 12.

HARRY BAILEY CHALFANT, M.D., Philadelphia, to Miss Elva Storey of Landenberg, Pa., July 27.

EDWARD G. BIAGE, M.D., Altoona, Pa., to Miss Edna Ebaugh, at Orangeville, Md., September 7.

THOMAS ARNESON, M.D., to Miss Mabel Chandler, both of Frederic, Wis., August 20.

JOHN FREDERICK W. ROST, M.D., to Miss Adela Peine, both of Minier, Ill., June 14.

Deaths

Thomas Dwight, M.D. one of the foremost anatomists of America, and successor to Dr. Oliver Wendell Holmes as Parkman professor of anatomy in Harvard Medical School; died at his home in Nahant, Mass., September 8, aged 67. Dr. Dwight took both his academic and his medical course at Harvard, graduating from Harvard Medical School in 1867. After two years of study abroad, he returned to the United States, and commenced to practice in Boston, and became instructor in comparative anatomy at Harvard Medical School in 1872, and was at the same time lecturer on and professor of anatomy in Bowdoin College, Brunswick, Me. From 1874 to 1883 he was instructor in histology in his alma mater and for the last three years of that time also an instructor in topographical anatomy. In 1883 he was made Parkman professor of anatomy, and continued in this position until his death. From 1873 to 1878 Dr. Dwight was editor of the *Boston Medical Journal*. His society membership included the Massachusetts Medical Society, the Association of American Anatomists, of which he was once president, and the American Society of Naturalists. He contributed numerous papers to the literature of human and vertebrate anatomy, and also was author of a work on "Anatomy of the Head," which appeared in 1876, and "Description of Frozen Sections of a Child," which was published in 1881; and a monograph on "Variations of the Bones of the Hand and Foot," in 1907.

Frank E. Waxham, M.D. for many years well-known as a laryngologist and rhinologist of Chicago, but for several years a resident of Denver, Colo., died in Sugar City, September 4, from cerebral hemorrhage, aged 59. Dr. Waxham was a native of Laporte, Ind., and took his medical course in the Northwestern University from which he was graduated in 1878. He commenced practice in Chicago, and became rapidly prominent as a specialist on diseases of the throat and nose. In 1893, on account of his wife's health, he was obliged to move to Colorado. He settled in Denver where he was professor of medicine, clinical medicine, laryngology and rhinology, in the University of Colorado, Boulder. He was a member of the American Medical Association and the state medical societies of Illinois and Colorado. He was a member of the medical staff of St. Joseph's Hospital, Denver, laryngologist and rhinologist to the University Hospital, Central Free Dispensary, National Jewish Hospital, and Children's Hospital and consulting laryngologist and rhinologist to the Denver City and County Hospital.

William Flynn, M.D. Louisville (Ky.) Medical College, 1876; once president of the Grant County (Ind.) Medical Association, and a member of the faculty of Indiana Medical College for many years, and later emeritus professor of medicine in the Indiana University School of Medicine, Bloomington; died in his apartments in Marion, September 1, from cerebral hemorrhage, aged 59. At the funeral of Dr. Flynn, the active pallbearers were members of the profession of Grant County, and the county medical society, at a special meeting, adopted resolutions deploring its loss in the death of Dr. Flynn.

Maurice Clarke Dwight, M.D. Harvard Medical School, 1882; of Haverhill, Mass., a member and once vice-president of the Massachusetts Medical Society; for twenty-two years secretary of the Essex North District Medical Society; formerly a member of the Haverhill (Mass.) board of health and a member of the local pension board; formerly consulting physician to the Danvers State Hospital; surgeon and chief of staff of the Hale Hospital; and secretary and treasurer of the Haverhill Medical Club; died at Hathorne, Mass., September 7, aged 59.

George Halsey Peets, M.D. University of Pennsylvania, Philadelphia, 1860; of Fort Adams, Miss.; chief surgeon of brigade in the Confederate service throughout the Civil War; at one time representative in the legislature from Wilkinson County; died at his country home "The Valley," in the western part of Wilkinson County, May 4, from carcinoma of the rectum, aged 73.

Benjamin Edson, M.D. New York University, New York City, 1873; a member of the Medical Society of the State of New York, and ever since his graduation a practitioner of Brooklyn; physician to the Home for Destitute Children, and for several years principal of Public School No. 14; died at his home, September 6, from heart disease, aged 70.

William Monroe Burroughs, M.D. Medical College of the State of South Carolina, Charleston, 1859; of Pineville, Ala.; a member of the Medical Association of the State of Alabama; died in Nadawah, in October, 1910, from senile debility, aged 74.

Lewis Wheeler Rose, M.D. New York University, New York City, 1887; a member of the American Medical Association, and the New York State Pathological Society; once president of the Monroe County Medical Society; for two years surgeon to the New York State Soldiers' and Sailors' Home, Bath; from 1882 to 1898 physician to the State Industrial Home; a member of the surgical staff of the Rochester General Hospital; died at his home in Rochester, August 29, from heart disease, aged 45.

George Dana Towne, M.D. New York University, New York City, 1878; of Manchester, N. H.; a member of the American Medical Association, and once president of the Hillsboro County (N. H.) Medical Society, and secretary of the New Hampshire Surgical Club; for many years visiting surgeon to the Elliot Hospital, and a trustee of the State Normal School, Plymouth; died at his summer home in Dunbarton, N. H., September 11, from cerebral hemorrhage, aged 57.

Alfred W. Mitchell, M.D. Washington University, St. Louis, 1879; a member of the American Medical Association and local surgeon of the Frisco system at Humansville, Mo., a member of the legislature for two terms from Polk County; died suddenly, while working in his garden, September 4, from heart disease, aged 55.

Carroll M. Baggarly, M.D. University College of Medicine, Richmond, Va., 1901; a member of the American Medical Association; associate professor of ophthalmology in his alma mater, and medical director of the public schools of Richmond; died in the Virginia Hospital, Richmond, September 3, from typhoid fever, aged 38.

John E. Lockridge, M.D. Medical College of Virginia, Richmond, 1863; a Confederate veteran; for several years a member of the staff of the Indiana Asylum for the Deaf and Dumb, and a practitioner of Indianapolis; died at the home of his sister-in-law in Nevada, Ia., August 13, from senile debility, aged 81.

George Fairlamb Harris, M.D. University of Pennsylvania, Philadelphia, 1864; a member of the American Medical Association, and a veteran of the Civil War; for several years vice-president of the First National Bank of Bellefonte, Pa.; died at his home in that city, September 11, from heart disease, aged 68.

John Taylor Gilman Nichols, M.D. Harvard Medical School, 1859; of Cambridge, Mass.; a member of the American Medical Association; acting assistant surgeon in the Army during the Civil War; at one time visiting physician to the Cambridge Hospital; died at Little Boars Head, N. H., August 27, aged 74.

Leonidas Franklin Wilbur, M.D. Harvard Medical School, 1854; for half a century a member of the Ontario County (N. Y.) Medical Society; and for many years president of the board of trustees of the Honeoye Public Library Association; died at his home in Honeoye, September 2, aged 79.

Justin de Lisle, M.D., Jefferson Medical College, 1882; of Springfield, O.; a member of the American Medical Association; while pursuing investigations regarding a serum for the cure of syphilis at the Pasteur Institute, Paris, France; died August 1, from arteriosclerosis, aged 52.

Isaac Buckeridge, M.D. Hahnemann Medical College, 1883; a member of the Wisconsin State Medical Society, and for several years a member of the council and health officer of Beloit; died at his home, August 30, from hypertrophy of the liver, aged 61.

Lorenzo D. Hamblett, M.D. Eclectic Medical College of Maine, Lewiston, 1885; for more than fifty years a practitioner, and since 1871 a resident of Somersworth, N. H.; died at his cottage in York Beach, Me., August 24, aged 84.

Harland Edgar Beers, M.D. Willamette University, Salem, Ore., 1890; a member of the American Medical Association and one of the oldest practitioners of Sherman County, Ore., died at his home near Wasco, March 25, aged 42.

James C. Melville (license, Michigan, years of practice, 1900); assistant surgeon of volunteers during the Civil War, and for thirty-three years a practitioner of Grand Rapids, Mich.; died at his home, September 6, aged 71.

George Koenig (license, Neb., 1891) for more than forty years a practitioner of Richardson County; is said to have committed suicide August 18, by hanging himself from the limb of a tree while despondent, aged 72.

William S. Browne, M.D. Bennett Medical College, Chicago, 1875; formerly of Watseka, Ill.; a member of the Illinois State Medical Society; died at his home in Opolis, Kan., August 21, from cerebral hemorrhage, aged 67.

William T. Sherwood, M.D. University of Michigan, Ann Arbor, 1859; a retired practitioner of Ravenswood, Chicago; acting assistant surgeon in the Army during the Civil War; died at his home, September 1, aged 79.

Samuel P. Seese, M.D. University of Pennsylvania, Philadelphia, 1874; of wide reputation as a botanist and investigator of medicinal plants; died at his home in Lansdale, Pa., August 29, from heart disease, aged 60.

Edward Parrish Thatcher, M.D. University of Michigan Homeopathic College, Ann Arbor, 1881; for two terms coroner of Wayne County, N. Y.; died at his home in Newark, N. Y., September 1, aged 53.

Arthur Kipp, M.D. Kentucky School of Medicine, Louisville, Ky., 1903; for several years a practitioner of British Honduras; died at his home in Louisville, September 1, from diabetes, aged 29.

Johiel H. Bonebrake (license, Kan., 1901) of Lecompton; twice a member of the state legislature; a practitioner since 1860; died at the home of his daughter in Overbrook, Kan., January 13.

Walter Henry Maynard, M.D. New York University, New York City, 1898; of New York City; a specialist on diseases of the throat and nose; died suddenly at his home, September 2, aged 45.

Samuel R. Kreidler, M.D. Hahnemann Medical College, Chicago, 1873; for many years a practitioner of Red Oak, Iowa; died at his home on a ranch near Moorcroft, Wyo., August 19, aged 63.

Julius Adolph Stegmair, M.D. New York University, New York City, 1886; a member of the Medical Society of the State of New York; died at his home in New York City, April 4.

Robert N. C. Tate, M.D. New York University, New York City, 1849; a member of the State Medical Association of Texas; died at his home in Gonzales, September 4, aged 84.

James W. Rock, M.D. Eclectic Medical College of the City of New York, 1876; formerly of New York City; died at his home in Utica, N. Y., August 24, from nephritis, aged 64.

Paul Robert Baer, M.D. Marion-Sims College of Medicine, St. Louis, 1893; of St. Louis; died in Herrnhut, Saxony, Germany, August 31, from cerebral hemorrhage, aged 55.

James G. W. Entwistle, M.D. Albany (N. Y.) Medical College, 1883; formerly of Chicago; died at his home in Canton, Ill., September 1, from pernicious anemia, aged 69.

Hamilton Byron Griswold, M.D. University of Vermont, Burlington, 1886; a veteran of the Civil War; died at his home in New Milford, Conn., June 24, aged 64.

David Mitchell, M.D. Victoria College, Coburg, Ont., 1869; a pioneer practitioner of Olympia, Wash.; died at the Canyon Hotel, Yellowstone Park, Mont., August 30.

Jacob Weber, M.D. University of Pennsylvania, Philadelphia, 1858; of Philadelphia; died in Cape May, N. J., August 30, from heart disease, aged 86.

Phoebe Low, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1872; died at her home in Liberty, N. Y., August 21, from cerebral hemorrhage, aged 73.

Silas Wright Frame, M.D. Bellevue Hospital Medical College, 1875; a veteran of the Civil War; died at his home in Belleville, N. Y., August 27, aged 69.

Henry L. Schilling, M.D. Tulane University, New Orleans, 1890; formerly of Magnolia, Miss.; died at his home in Hot Springs, Ark., September 2, aged 56.

A. Herbert Bayard, M.D. Albany (N. Y.) Medical College, 1889; health officer of Cornwall-on-the-Hudson, N. Y.; died at his home, August 31, aged 42.

William Harmon Miller, M.D. Jefferson Medical College, 1893; formerly of Rockport, Tex.; died at his home in San Antonio, August 29, aged 44.

Clarence N. Mitchell, M.D. Baltimore Medical College, 1902; of Lawrence, Mass.; died at the Cottage Hospital in that city, August 26, aged 31.

George David Greenslate, a practitioner since 1876; died at his home in Willmathsville, Mo., July 12, from carcinoma of the liver, aged 62.

George F. Chapman, M.D. University of Louisville (Ky.), 1890; died at his home in Centertown, Ky., recently from nephritis, aged 57.

Thompson M. Wells, M.D. Hahnemann Medical College, Philadelphia, 1875; died at his home in Bellaire, O., August 31, aged 58.

V. 5
1911

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

THE CHARGE AGAINST DR. WILEY

Extracts from the Testimony Given Before the Congressional Committee

(*Continued from page 997*)

THE DENVER MEETING

[In August of 1909 the thirteenth annual convention of the State and National Food and Dairy Departments met in Denver. At the previous meeting, held at Mackinac Island, Mich., Aug. 4-6, 1908, the association had adopted resolutions expressing its regret that the cooperation of the Secretary of Agriculture in establishing standard for the enforcement of food laws, had been withdrawn. At the 1909 meeting in Denver strenuous efforts were made by the Secretary and his friends to control the convention, to prevent the passage of resolutions denouncing the findings of the Remsen Board, and to control the election of officers. The extracts from the testimony which follow show how the resources of the Department of Agriculture were used to secure the presence of as many adherents of Wilson and McCabe as possible and to influence the votes of as many of the delegates as could be swayed. The first extract is from Professor Remsen's testimony, and shows how Secretary Wilson arranged to have the Referee Board attend the Denver meeting and how its influence was used. Part of Professor Remsen's evidence is given below:]

DR. REMSEN'S TESTIMONY

Mr. Floyd. Did you attend the convention of State and National Dairy and Food Departments at Denver in 1909?

Dr. Remsen. Yes, sir; on the way back from California I stopped there.

Mr. Floyd. Did you attend on your own volition, or were you directed by the department to attend?

Dr. Remsen. I was not directed; I was requested.

Mr. Floyd. You were requested to attend?

Dr. Remsen. Yes.

Mr. Floyd. How long did you remain at Denver during that convention?

Dr. Remsen. Two or three days; I am not sure just exactly how long.

Mr. Floyd. What was the purpose of that convention, and what were the questions discussed there? Did they relate to pure foods?

Dr. Remsen. Well, I do not know much about the association. I do know that I was asked by the president of the association to give an address on the subject of the work of the referee board, I think, or at least it had reference to the benzoate question, and after finding I could stop there conveniently on the way from California and that the other members of the board could do the same, I accepted the invitation. The association discussed all sorts of questions pertaining to things of which I have no knowledge, but I do know that they took up this benzoate question in rather an active way, and I suppose it was felt by the Secretary that it was desirable to have some one there to explain what it all meant. They seemed to be going on the wrong track, so far as we could gather. They got some wrong impressions of the thing and the nature of the work, or what we were appointed for, or what we were doing, and it did seem wise not to let them go too far that way without some explanation from us, which we gave in a dignified way, I think I can safely say.

Mr. Floyd. And the expenses of yourself and the other members of the board for this trip to California and this trip to the convention in Denver were paid by the department?

Dr. Remsen. Yes. Of course the trip to the convention amounted to very little. That was simply stopping over.

Mr. Floyd. You state that you addressed the convention yourself. Did any of the other members of the board address the convention; and if so, who?

Dr. Remsen. Dr. Chittenden, Dr. Long, and Dr. Herter all addressed the convention, at the request of the president of the association, Mr. Emory.

Mr. Floyd. I will ask you to state if in the address you made before the convention on the question of benzoate of soda you made a defense of the use of benzoate of soda?

Dr. Remsen. No, sir.

Mr. Floyd. You just discussed the findings?

Dr. Remsen. I discussed the general method of procedure which we had followed. I have nothing to do with the use of benzoate of soda. We were not asked to decide whether it was a good thing to use or not, and we have never expressed ourselves upon that point.

Mr. Floyd. What was it, then, that you were asked to decide?

Dr. Remsen. Whether the use of benzoate of soda in small doses and in large doses is or is not injurious to the human system. That was the end of the inquiry so far as we were concerned.

. . . . . .

The Chairman. Your expenses at Denver were also paid by the Department of Agriculture?

Dr. Remsen. We went, as I said yesterday, to California for an important purpose, looking into the sulphuring process, and on our way back we stopped there. We did make a little effort to time our trip back so that we could attend that meeting, because we had been asked to give addresses. We were asked by the president of the association. We stayed there possibly three days. I am not sure whether it was two or three, but not more than three. The slight expense of the board during that period in the way of traveling expenses was paid by the——

The Chairman (interposing). You gave an address there?

Dr. Remsen. Yes.

The Chairman. And the purpose of that address was to explain and defend the report you had made to the Secretary of Agriculture?

Dr. Remsen. I did not defend the work. I didn't think that was my business. The report had been made. But I did do this. I explained, somewhat as I have explained to this committee yesterday, how the board came into existence, and very little else. I don't think that address was ever published. Then, I may say that after that the work of the board was attacked very violently by Dr. Reed of Cincinnati, which was most astonishing to me. After that attack I felt it my duty to respond, which I did in measured manner, and I didn't say anything I would not repeat. I will add that to what I said yesterday, because I made really two addresses there The other members of the board I think did not answer the attack. I think they were satisfied with my answer.

The Chairman. In making either one of those addresses did you go beyond the official work of your board and defend the use of benzoate of soda as a preservative of food?

Dr. Remsen. No, sir.

[Solicitor McCabe not only attended the Denver meeting at government expense and, as he naïvely says, "cast the vote for the Department," but also—as his evidence shows—made an earlier trip west, of which, at first, he could not remember any of the details. Under the cross-examination of Dr. Wiley's representative, Mr. McCabe was forced to admit that he went west to line up votes for the Department of Agriculture, "to support the referee board's decision on the benzoate of soda question, as against the decision of the Bureau of Chemistry on the same question." A part of his testimony follows:]

MR. MCCABE'S TESTIMONY

Mr. Floyd. Did you attend a meeting of the Association of State and National Dairy Departments of the United States at Denver in 1909?

Mr. McCabe. Yes, sir.

Mr. Floyd. Did you take any part in the discussion or proceedings there?

Mr. McCabe. Yes, sir.

Mr. Floyd. Was there any question raised in that convention in regard to the use of benzoate of soda as a preservative?

Mr. McCabe. There was.

Mr. Floyd. Did you take any part or participation in the discussion of that question?

Mr. McCabe. I did.

Mr. Floyd. On what side?

Mr. McCabe. In favor of the ruling of the department. I have always been on that side.

Mr. Floyd. In favor of the ruling of the department. What was the occasion of your attending that convention? Did you go there in your official capacity?

Mr. McCabe. I went there by direction of the Secretary of Agriculture. The occasion of my attending was this. That

meeting in Denver was held in 1909. The meeting the year before had been held at Mackinac, in the State of Michigan. That was in 1908. At the Mackinac meeting they held a secret session of the association. Not only was it a secret session barred to the public, although they were public officers attending there at public expense, either national or state, but they had a secret ballot. Among the resolutions that they adopted, among the resolutions which were reported by the committee on resolutions, was one vilifying and abusing the Secretary of Agriculture and questioning his good faith I was not at that meeting.

Mr. Floyd. Can you produce that resolution in this connection?

Mr. McCabe. I will tell you about that. I will come to that point. There were four or five department people there. When the resolution was reported, they could not bear to remain and see their chief slaughtered. So they asked to be excused and went out, I suppose with their handkerchiefs to their eyes, and the resolutions were adopted; that is, some resolutions were adopted. There were some resolutions reported in the papers, and the resolutions which were reported in the papers virtually and practically accused the Secretary of misapplication of funds. And the Secretary of Agriculture wrote to the secretary of the association and asked him for a copy of the resolutions, and he wrote repeatedly, and he was never able to get them. So when the Denver meeting was coming on the Secretary said, "We will go out there and we will have an open meeting, and we will see what they have to say when I am there." And we went out.

Mr. Floyd. And you went in your official capacity?

Mr. McCabe. Yes.

Mr. Floyd. At the direction of the Secretary?

Mr. McCabe. I did.

Mr. Floyd. Did other members of the Department of Agriculture attend?

Mr. McCabe. Yes, sir. There were a number of employees of the Bureau of Chemistry and a number of the employees of the Bureau of Animal Industry—Dr. Bigelow, Dr. Wiley; I think Dr. Kebler was there, and Dr. Melvin and Dr. Rawl, of the Dairy Division, I think were there.

. . . . . .

Mr. Davis. Very well. You were asked about being present at the convention that was held in Denver?

Mr. McCabe. Yes.

Mr. Davis. When was that Denver convention held?

Mr. McCabe. Sometime in the summer of 1909.

Mr. Davis. Do you remember the month?

Mr. McCabe. I do not. It was either July or August.

Mr. Davis. It was August, I believe; I am so informed. You attended that in your capacity as a member of the Board of Food and Drug Inspection?

Mr. McCabe. I attended it because in my capacity as an employee of the Department of Agriculture I was directed by the Secretary to go there.

Mr. Davis. Do you know how you gained admission to the floor to participate in the voting or debates; was it as a member of the force of the Secretary of Agriculture, or as connected with the Bureau of Chemistry?

Mr. McCabe. As associated with the Secretary of Agriculture—with the Department of Agriculture.

Mr. Davis. And not in connection with the Bureau of Chemistry?

Mr. McCabe. I never considered that I have been connected with the Bureau of Chemistry.

Mr. Davis. You voted in that convention?

Mr. McCabe. I did; that is, I cast the vote of the Department.

Mr. Davis. Who constituted the representatives of the department whose conclusion was expressed in the vote that you cast?

Mr. McCabe. I think all the representatives of the department who were there.

Mr. Davis. I take that for granted; but were they connected with one or another bureau or branch of the department?

Mr McCabe. Connected with different bureaus and branches.

Mr. Davis. Could you enumerate them?

Mr. McCabe. Well, there was the Secretary's office; there was the Bureau of Animal Industry; and there was the Bureau of Chemistry.

Mr. Davis. And there were how many—nine, were there not?

Mr. McCabe. Nine what?

Mr. Davis. Nine representatives of the department.

Mr. McCabe. There must have been more than that, because there were, I think, five members of the referee board and the Chief of the Bureau of Chemistry. I remember Dr. Bigelow was there, although I think he was attending the meeting of official agricultural chemists. There was Dr. Kebler, Dr. Melvin, and I think Dr. Dorsett was there. That is simply from recollection. I think, perhaps, Dr. Rawl of the Dairy Division was there. I was there.

Mr. Davis. Before you went to that convention you took a trip through the Northwest, did you not, in connection with it?

Mr. McCabe. No; not in connection with it.

Mr. Davis. When did you leave Washington to go to the convention?

Mr. McCabe. I don't know.

Mr. Davis. How many days before the convention?

Mr. McCabe. Several days.

Mr. Davis. Do you mind saying where you went?

Mr. McCabe. I went directly from Washington to Denver.

Mr. Davis. Before that, had you been out in the Northwest at all on this business?

Mr. McCabe. Not on this business.

Mr. Davis. You had not been out there?

Mr. McCabe. I could not answer positively from recollection. I think I had taken an official trip before that time.

Mr. Davis. Was it not almost immediately before that?

Mr. McCabe. How long before, I don't know.

Mr. Davis. I wish you would look that up.

Mr. McCabe. I will verify that and put it in my testimony.

Mr. Davis. Would you object to stating what that trip was about?

Mr. McCabe. I would, from memory, because it has been a good while ago, and I do not remember about it.

Mr. Davis. Will you be good enough to refresh your recollection?

Mr. McCabe. Yes.

Mr. Davis. You were traveling at the expense of the Agricultural Department?

Mr. McCabe. Yes; it was an official trip.

Mr. Davis. And during that official trip, is it not a fact that you interested yourself to interview various persons who would be in attendance at that Denver meeting?

Mr. McCabe. I think I did.

Mr. Davis. With a view to the question that would come up in reference to benzoate of soda?

Mr. McCabe. With a view of upholding a ruling of the department.

Mr. Davis. Do you remember how many persons you interviewed during that official trip who afterwards appeared at Denver and voted to support the benzoate of soda decision?

Mr. McCabe. No.

Mr. Davis. Could you approximate the number?

Mr. McCabe. I do not know that I could. I would say possibly three or four or five.

Mr. Davis. In refreshing your recollection about the other matter, you can refresh your recollection about that and recall, if you can, the itinerary of your trip?

Mr. McCabe. Yes.

Mr. Davis. Be good enough to tell us who the persons were that you interviewed on that trip.

Mr. McCabe. I can tell you now that I interviewed every man I met that would probably come to the convention, and I asked every man of that kind I met to uphold the department when he got there.

Mr. Davis. And that you did while traveling on an official trip at the expense of the Department?

Mr. McCabe. Yes.

Mr. Davis. The exact object of that trip was what? Do you now remember?

Mr. McCabe. No; nor do I think it is remarkable that I do not remember.

Mr. Davis. I do not make any suggestion that it is remarkable.

Mr. Higgins. What is the purpose of this examination?

Mr. Davis. It is completed, Mr. Higgins. The purpose of it, I can say without the slightest reservation, is to show that the Solicitor for the Department of Agriculture was on a trip at the government's expense, if not for the purpose, with the effect of marshaling forces that were to be at the Denver convention to support the referee board's decision on the benzoate of soda question as against the decision of the Bureau of Chemistry on the same question.

Mr. Higgins. And he has stated that he did that at the request of his chief.

Mr. Davis. No; he has not stated that he did that at the request of his chief.

Mr. Higgins. I so understand—that he attended the Denver convention at the request of the Secretary of Agriculture.

Mr. Davis. Yes; but this was before this trip about which I have been inquiring.

Mr. Higgins. I would suggest that inasmuch as he said that, that it might be more pertinent to examine the Secretary of Agriculture when he comes on the stand.

Mr. Floyd. I think you misunderstand Mr. McCabe. He stated that it is true that he went to the Denver convention at the request of the Secretary of Agriculture; but Mr. Davis has been asking him about another trip he made.

Mr. Higgins. He stated, as I understand, that before that time he took an official trip, which, I presume, presupposes that the Secretary of Agriculture either directed him to make that trip or agreed that he should take it.

Mr. Floyd. He has been asked to refresh his memory about the details of that trip.

Mr. McCabe. I can state now with the greatest positiveness that if I met anybody on that trip, and I know I did meet some, who were entitled to go to that convention, that I asked them to go and when they got there to support the ruling of the Department of Agriculture; that I considered the investigation that had been made by the referee board and its adoption of the three Secretaries settled the question, and I hoped that we would not have a repetition of what occurred at Mackinac. I further argued with the men I met that when we got there we ought to have an open meeting and settle the question, and I worked, and worked hard, along that line, and I am very proud of it.

Mr. Higgins. At that time there was a great deal of contention among the food manufacturers, or certain food manufacturers, as to the use or harmful effect of benzoate of soda.

Mr. McCabe. From the moment the referee board was created there was a newspaper war carried on against that board——

Mr. Higgins. And is now, is there not?

Mr. McCabe. Well, the papers speak for themselves. There was a correspondent here in Washington almost from the time that the board was created who sent out any number of copies of articles reproduced by a typewritten process abusing the Secretary, abusing the referee board, impugning the motives of the Secretary for creating the board, attacking the personnel of the referee board; and those articles have continued to be sent out up to within certainly a very few days. The fight on benzoate of soda, so far as the manufacturer is concerned, was purely a trade fight. It was a matter of advertising. And when we got to Denver both sides were drawn up—the people who were opposed to benzoate of soda and opposed to the methods of the board and favored the findings of the Bureau of Chemistry.

Mr. Higgins. What people were principally opposed?

Mr. McCabe. The people who appeared there were the Heinz people, their advertising people, the people who have since formed an association of which Heinz & Co. and other manufacturers are members.

Mr. Higgins. What is the name of that?

Mr. McCabe. It is called the Association for the Promotion of Purity in Food Products.

Mr. Higgins. And where located?

Mr. McCabe. I think possibly their office is in New York, although I do not know. A representative of the national food magazine, *What to Eat*, the editor or proprietor of that paper, it was—I have never had any experience in attending many political conventions, but it was a stand-up and knock-down fight from the minute we got there until it was over, with both sides trying to control just as many delegates as they possibly could.

Mr. Floyd. How did the vote stand on the final vote?

Mr. McCabe. The vote on benzoate of soda, on the division, on the resolution indorsing the findings of the referee board—I do not know how it stood. The fight was continued—each side had a slate of officers. When the meeting was held at Mackinac behind closed doors, the result was that resolutions were published accusing and condemning the Secretary of Agriculture; and there was just one gentleman who had red blood enough to get up and say that he thought it was wrong for the Secretary of Agriculture to be condemned without a hearing.

Mr. Floyd. What I wanted to know was how the vote stood——

Mr. McCabe. That man was Mr. Flanders, of New York. I am coming to an answer to your question. I do not know how the votes stood on the question of benzoate of soda, but the result was an indorsement of the ruling of the department. We supported Mr. Flanders for president, and he won by one vote. The State of Georgia switched after the vote on president, I think—yes; I think it was the State of Georgia—and the rest of the other slate was elected.

Mr. Floyd. Now, right in that connection, before we get away from it, you stated that quite a number of the employees of the Agricultural Department and its different bureaus were there in addition to yourself.

Mr. McCabe. Yes.

Mr. Floyd. To get to the item of expense, were the expenses of these various employees paid by the Department?

Mr. McCabe. Yes; they always have been at every meeting.

[Dr. Robison, a chemist, attended the Denver meeting as a representative of the State of Michigan and voted for the commissioner of that state for president. He was also chairman of a committee on benzoate of soda. Later he testified for the State of Indiana in the Indianapolis case. For these offenses he was dismissed by Secretary Wilson.]

DR. ROBISON'S TESTIMONY

Mr. Moss. State your full name.

Dr. Robison. Dr. Floyd W. Robison.

Mr. Moss. What is your occupation or for what have you been fitted by occupation.

Dr. Robison. I am a chemist by occupation.

Mr. Moss. What official positions have you held?

Dr. Robison. I have held the official position of state chemist for the Michigan State Experiment Station and the position of state analyst of the Michigan State dairy and food department, and the position of a per diem employee, food and drug inspection, in the United States Department of Agriculture.

Mr. Moss. How did you obtain that employment in the United States Department of Agriculture?

Dr. Robison. Shortly following the passage of the national food and drugs act, by virtue of an examination taken under the Civil Service Commission, being duly certified by that commission and subsequently appointed over the official signature of the Secretary of the United States Department of Agriculture.

Mr. Moss Then you were a civil-service employee?

Mr Robison. Yes.

Mr. Moss. When did your connection with the Department of Agriculture begin?

Mr. Robison. I have the original appointment here which will answer that question.

Mr. Moss. You can refer to that.

Dr. Robison. My probationary appointment for a period of six months was made on May 1, 1907, which was followed on March 14, 1908, by a permanent appointment which was to take effect on November 9 the year previous, 1907.

Mr. Moss. When did your connection with the Agricultural Department terminate, if it has terminated?

Dr. Robison. My connection terminated on June 30, 1911.

Mr. Moss. How did it terminate—by resignation?

Dr. Robison. No, sir.

Mr. Moss. How?

Dr. Robison. By virtue of a letter of dismissal from the Secretary of Agriculture.

Mr. Moss. Were there any charges filed against you?

Dr. Robison. None.

Mr. Moss. Have you the letter of dismissal with you?

Dr. Robison. I have.

Mr. Moss. Please read it to the committee, so it will be a part of the record.

Dr. Robison (reading):

UNITED STATES DEPARTMENT OF AGRICULTURE,
OFFICE OF THE SECRETARY,

Washington, D. C., June 26, 1911.

Mr. Floyd W. Robison, of the State of Michigan, a food and drug inspection chemist, having a salary at the rate of $7 per diem when actually employed on the miscellaneous roll, paid from the fund appropriated for general expenses, Bureau of Chemistry, food and drugs act, salaries out of Washington in the Bureau of Chemistry, of the United States Department of Agriculture, is hereby removed from that position and his name ordered to be dropped from the rolls of the Department of Agriculture at the termination of June 30, 1911, and this order shall take effect on that date. He is removed from the department for the good of the service.

[SEAL.] JAMES WILSON,
Secretary of Agriculture.

Mr. Moss. I will ask you if you have had any subsequent correspondence with the Secretary of Agriculture about this?

Dr. Robison. I have.

Mr. Moss. You will read the letter addressed to you by Secretary Wilson giving a more extended reason for your dismissal.

Dr. Robison. I will say, if the chairman will permit me, that following the receipt of that letter of dismissal I wrote

a letter to the Secretary of Agriculture, a brief letter, in which I demanded of him by virtue of my right as an American citizen and as an employee under the civil-service act that he state the charges on file against me, and to that I received this letter.

Mr. Moss. You can place the copy of the letter in the record.

Dr. Robison. The letter I wrote him is in the hands of the Secretary of Agriculture.

Mr. Moss. Well, we may be able to get that. You may read the response of the Secretary of Agriculture to you.

Dr. Robison. This is dated, "Office of the Secretary of Agriculture, July 25, 1911:"

MR. FLOYD W. ROBISON,

1111 Union Trust Building, Detroit, Mich.

SIR: I have your letter of July 14. The facts in the case are as follows:

In May, 1907, you were appointed food and drug inspection chemist, at $7 per day, on the food and drugs roll when actually employed. On November 9, 1908, you were transferred to the roll for food and drugs outside of Washington, D. C. During the year 1909 you were paid $28 and reimbursed $26.84 for expenses.

At the meeting of the Association of State and National Food and Dairy Departments at Denver in July, 1909, you attracted attention by taking a strong and public position against the policies of this department and of the administration. You appeared in the Federal court in Indianapolis in opposition to the policies of the administration with regard to the reports of the referee board on benzoate of soda and the report of the three secretaries with regard to it.

It recently came to my attention that beginning with February, 1911, you had resumed work under your old appointment, though you had not rendered any previous service since April 30, 1909. I had supposed that your long absence and work for the State of Michigan and positive stand against the administration had all resulted in your leaving the service. I have approved your dismissal for the good of the service. There are no charges against you; we make none. I recognize the fact that you have a perfect right to occupy any position you see fit with regard to the policies of the administration or of the department, but I do not think you should draw salary while you are taking this stand.

This is all I have to say. If you want a hearing, you can have one at any time.

Respectfully, JAMES WILSON.

Mr. Moss. Were you a delegate to the Denver convention?

Dr. Robison. I was.

Mr. Moss. Whom did you represent at the Denver convention?

Dr. Robison. I represented the State of Michigan.

Mr. Moss. Who paid your expenses for attending that convention?

Dr. Robison. The State of Michigan.

Mr. Moss. Were you drawing any salary from the Government at the time you were at the Denver convention?

Dr. Robison. I was not.

Mr. Moss. Did you draw any money, either directly or indirectly, from the National Government for your attendance at the convention or for your expenses?

Dr. Robison. I did not.

Mr. Moss. What position did you hold at the Denver convention, so far as the convention itself was concerned?

Dr. Robison. I held the position of chairman of the committee of eleven state food chemists appointed by the president of the Association of State and National Food and Dairy Departments.

Mr. Moss. Did you make any report at that convention?

Dr. Robison. As chairman of the committee, I did, sir.

Mr. Moss. Will you read into the record just the report that you made to the convention?

Dr. Robison. I have this report embodied in my reply to the Secretary of Agriculture. I will state, Mr. Chairman, that the report involves several paragraphs, but the final recommendation of the report is the one——

Mr. Moss. Read the recommendation, and if the committee wants the entire report it can be inserted.

Dr. Robison (reading):

Your committee therefore respectfully suggests to this association the wisdom of asking the President of the United States and the honorable Secretary of Agriculture to institute investigations along some such broader lines as indicated above.

Mr. Moss. In making that report did you make it in your personal capacity as the delegate or did you make it in your capacity as chairman of this committee?

Dr. Robison. I made it in my official capacity as chairman of this committee

Mr. Moss. As I understand it, you were appointed a delegate by the State of Michigan?

Dr. Robison. That is correct.

Mr. Moss. And expenses paid by the State of Michigan?

Dr. Robison. That is correct.

Mr. Moss. And as such delegate you were appointed chairman of the committee by the president of the association?

Dr. Robison. That is correct.

Mr. Moss. And as chairman you made a report of the convention?

Dr. Robison. That is correct, sir.

Mr. Moss. What disposition was made of this report?

Dr. Robison. The report was unanimously adopted by the convention.

Mr. Moss. Were you acting in any way, directly or indirectly, for the Department of Agriculture at the Denver convention?

Dr. Robison. I was not.

Mr. Moss. Did you receive any information from Secretary Wilson or any person representing the Department of Agriculture as to what the policy of the department or administration was?

Dr. Robison. I received no information from the Department of Agriculture or anyone else as to what the policy of the administration was.

Mr. Moss. Did you address the convention?

Dr. Robison. As chairman of this committee; yes.

Mr. Moss. I mean did you make an address there advocating benzoate of soda or opposing it in any way?

Dr. Robison. I did not.

Mr. Moss. Did you make any address to the Denver convention in which you referred to the Remsen board one way or the other?

Dr. Robison. I did not.

Mr. Moss. In your capacity as delegate did you cast a vote for president of that association?

Dr. Robison. I did.

Mr. Moss. Will you state for whom you cast that vote?

Dr. Robison. I cast that vote for the commissioner of the State of Michigan, who was a candidate for the presidency at that meeting.

Mr. Moss. Was the candidate for whom you cast your vote receiving the support of the Department of Agriculture at that convention?

Dr. Robison. He was not.

Mr. Moss. So far as you know, then, did you appear in opposition to the Department of Agriculture in any other manner except casting your personal vote for the president of the association?

Dr. Robison. I did not.

Mr. Moss. And will you state upon what grounds you cast your vote for the president?

Dr. Robison. On the grounds that the commissioner of the State of Michigan was a candidate for the presidency, and as a delegate of the State of Michigan I thought it my duty to cast the vote of Michigan for him.

Mr. Moss. So you cast it, then, upon the ground of state pride and your acquaintance——

Dr. Robison. Solely, sir.

Mr. Moss. At whose request did you appear at Indianapolis to give testimony at that trial?

Dr. Robison. At the request of the Board of Health of the State of Indiana.

Mr. Moss. Who paid your expenses at that trial?

Dr. Robison. The Board of Health of the State of Indiana.

Mr. Moss. Were you paid any fee?

Dr. Robison. I received no fee; no, sir.

Mr. Moss. At the trial in Indiana, upon what grounds did you testify? Upon the ground that you had done original work along the lines involved in the suit, and was testifying as to your own findings as the chemist of the original work?

Dr. Robison. Solely, sir.

Mr. Moss. In your testimony, then, were you testifying to discredit the policies of the administration or were you testifying as to the truth, as you understood it, of the issues involved, as discovered by your original work as a chemist?

Dr. Robison. I testified according to the truth as I understood it to be and had found it from my own investigations, and according to my oath, and without any regard in any capacity to any other policy.

Mr. Moss. Were you warned, either directly or indirectly, by any member connected with the Department of Agriculture, that you should not give this testimony, because it would be in opposition to the policies of the administration of the United States?

Dr. Robison. I was not.

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[Dr. Wiley, although chief of the Bureau of Chemistry and responsible for the enforcement of the national Food and Drugs Act, was not a delegate from the Department of Agriculture and had no vote. Instead the delegation representing the pure food work of the national government was headed by Solicitor McCabe, a lawyer, who knows nothing of chemistry, foods or drugs. A portion of Dr. Wiley's testimony relating to the Denver meeting follows:]

DR. WILEY'S TESTIMONY

Mr. Davis. It was stated by Mr. McCabe, on page 436 of the record, that you, among others, attended the meeting at Denver which has been several times referred to in these proceedings. What is the fact about that?

Dr. Wiley. I understand that Mr. McCabe said I was a delegate.

Mr. Davis. That is the implication of his answer.

Dr. Wiley. I was not a delegate to the meeting at Denver. I went out there to attend a meeting of Official Agricultural Chemists, of which I am the permanent secretary, and also to visit my laboratory, or, I should say, the laboratory of the Bureau of Chemistry there, which I had never seen. During my stay there I was incidentally in the meeting of food commissioners a few times, and my name was down to read a paper on the program, and when the time came for my paper I was attending the meeting of the Official Agricultural Chemists, which was held in the same building, and the Secretary of Agriculture was appointed chairman of a committee to wait on me and bring me into the hall to read my paper. The Secretary of Agriculture and the committee waited on me and I went with them into the meeting, and the Secretary presented me to the chairman in a short speech and I read my paper, which consumed about 15 minutes, I think, and I then returned to the meeting of Official Agricultural Chemists. I was not otherwise a delegate to that convention and took no part whatever in its proceedings.

The Chairman. Did you vote in the meeting that you have been referring to—the meeting of the State and National Dairy and Food Department?

Dr. Wiley. No. When it came time for the Agricultural Department to vote Mr. McCabe asked me if I wanted to vote. I said, "No, I am not a delegate and I will not vote."

The Chairman. Were you paid any expenses for having attended the National Food and Dairy Department meeting?

Dr. Wiley. No. My expenses were paid to the other meeting, the Association of Official Agricultural Chemists, and the inspection of my laboratory. Nothing was paid in connection with the dairy and food commissioners.

Mr. Higgins. But you took the trip and this was incidental to your trip and the expenses for the trip were paid by the Department?

Dr. Wiley. Yes, sir.

Mr. Davis. You have spoken of the expenses of certain appointees as having been paid from the bureau, or some reference was made to that—in fact, I don't think you yourself have made a statement about it—and I call your attention to the names of Charles W. Boyle and others whom I named to Mr. McCabe, and Mr. McCabe stated that these persons had been appointed for duty in his office. I will ask you from what appropriation they were paid, if you know?

Dr. Wiley. I do know.

Mr. Davis. Well?

Dr. Wiley. They were paid from the money appropriated to the Bureau of Chemistry.

Mr. Davis. Did you ever have the services of those men or any of them?

Dr. Wiley. They were never in my office; not one of them to my knowledge.

Mr. Davis. In other words, they were appointed and they were paid out of your fund and they performed their duties in the office of the Solicitor?

Dr. Wiley. That is correct.

Mr. Floyd. Have you a list of those?

Dr. Wiley. I have. It is there [indicating].

Mr. Davis. I now hand you a list and ask you to examine this list and state whether that correctly gives the names and the compensation of the persons of whom I have just inquired?

Dr. Wiley (after examination of list). To the best of my knowledge and recollection it does. These appointments were made, and the only knowledge I had of them was that they had been appointed to the Bureau of Chemistry and detailed to the Solicitor's office, and that the money would be charged against the Bureau of Chemistry. That was to notify me so that I would not myself spend that money when it was being spent in another place.

Mr. Higgins. Did you understand that was for the enforcement of the Food and Drugs Act.

Dr. Wiley. I did not understand what it was for.

[Comment is hardly necessary on the portion of Secretary Wilson's evidence given below. Those who have followed the testimony of this case to this point will find a number of suggestive statements in the secretary's replies.]

SECRETARY WILSON'S TESTIMONY

The Chairman. It was at your request, Mr. Secretary, that certain employees of the Department of Agriculture attended the Denver convention of the Association of State and National Food and Drug Departments, was it not?

Secretary Wilson. Yes; that is right.

The Chairman. Did you assign any special duty to those employees who attended this convention, which duty did not appear on the published program of the association?

Secretary Wilson. That particular question I would have to look over my orders to refresh my recollection about. I do not remember anything of that kind, and yet it might have been.

The Chairman. Dr. Dunlap stated in his testimony before the committee that at your request he made an unofficial trip at public expense to confer with Dr. Remsen concerning the Denver convention. Will you be willing to explain to the committee what request you submitted to Dr. Remsen through Dr. Dunlap?

Secretary Wilson. I could not remember. If I can dig it up in my recollection or from any contemporaneous fact, I will be glad to send you an intelligent answer.

The Chairman. In a letter which Dr. Remsen wrote to you, Mr. Secretary, he used this language—and I can put in the entire letter, if you would like to have your recollection refreshed—in which he speaks of your plan as an excellent one. I will read it so it will come back to your memory and refresh your memory on the point.

The letter is dated June 30, 1909, and is as follows:

MY DEAR MR. SECRETARY: Mr. Dunlap has no doubt informed you of the general trend of our conversation. I have now to say that I have written to all the other members of the board urging them to arrange so as to be in Denver at the time of the meeting of the association. You may count upon the attendance of most of us. There is some doubt as to Dr. Herter, as he has been somewhat disabled, but I know he will go if possible.

Your plan, as explained by Dr. Dunlap, is an excellent one. It is time something definite were done. You will find our board not only willing, but anxious to cooperate with you in this effort to get things on a solid, scientific, common-sense basis.

The letter is addressed to you, Mr. Secretary, and is signed Ira Remsen, chairman of the Referee Board of Consulting Scientific Experts.

Secretary Wilson. Yes.

The Chairman. Would you care to explain to the committee what your plan was that you had Dr. Dunlap explain to Dr. Remsen?

Secretary Wilson. Surely. That was the Board of Foods and Drugs, and if I remember the names of those connected with it, nearly all of them have my permission to cooperate with us in their states, and so forth, and to help us, and we help them. They had met at Mackinac Island. I think it was, Lake Superior, if my geography does not desert me, and they had done queer things there. We had a referee board, and I think a pretty expensive referee board, you will confess. We had gone after big men, and it was costing a good deal of money, and those people met there at Mackinac Island and got themselves outside of sympathy with the department along those lines, attacked me personally, misrepresented things, and I thought the amount of effort the United States was making and the amount of money it was expending to get facts from the greatest chemists in the land made it worth while for us to get those big men there before that class of men and let them see them and let them hear them. I did not think they comprehended the difference there was between a small chemist and a big one. That was the one thing in my mind. They were in California studying the drying of foods with sulphur, that we spoke about this morning, and the arrangement was they should stop over at Denver on the way back. I was going to the forests, and I arranged and it was my plan to stop there on my way to the forests. I went into the forests from Denver and stayed a month. Those were the plans. There is nothing

I care to conceal here, not a thing. Those were the plans and we talked them over, and every one of them addressed that convention, every one of them, and I think those people got new light from those men.

The Chairman. However, I believe the function of the board was simply to make recommendations to you as Secretary of Agriculture, was it not?

Secretary Wilson. That was a function, of course; that was the original function; but they were on their way back, and they stopped over there and let them have the benefit of their high intelligence along those lines.

The Chairman. Do you consider, or did you consider at the time, that the attendance of members of the Remsen Board and Solicitor McCabe at this Denver convention, which we were speaking about heretofore, was in line with their official duties?

Secretary Wilson. Yes; it was a kind of public trial we were having really, of the Remsen board.

The Chairman. Their attendance being in the line of their official duty. Will you explain why you issued to each one of them a special authorization for traveling expenses to attend this particular convention, when each one of them had an annual authorization for travel anywhere in the United States upon official business?

Secretary Wilson. If you have evidence of that special authorization, you had better call my attention to it.

The Chairman. Very well, I will be glad to do that.

Secretary Wilson. I do not remember anything about that.

The Chairman. I have the special authorization for Mr. McCabe, which does not appear in our proceedings, but which was furnished by your kindness and your direction.

Secretary Wilson. There is not a thing we have that you can not get.

The Chairman. Probably I had better refresh your memory with that official authorization before making further inquiry about it. It is as follows:

WASHINGTON, D. C., *July 1, 1909.*

DR. IRA REMSEN,
Consulting Scientific Expert to the Secretary of Agriculture.

SIR: Authority is hereby granted you to perform such travel within and throughout the United States during the year 1910 as may be necessary in connection with your duties as consulting scientific expert. This authority may be extended by you to your associates, Dr. John H. Long, Dr. Russell H. Chittenden, Dr. Alonzo E. Taylor, Dr. C. A. Herter, associate consulting scientific experts, and to such regularly appointed assistants of the board as you deem proper. You, your associates, and the regularly appointed assistants mentioned above, will be allowed the usual traveling expenses when traveling upon official business.

In another communication you say:

WASHINGTON, D. C., *August 6, 1909*

DR. IRA REMSEN,
Consulting Scientific Expert to the Secretary of Agriculture,
Johns Hopkins University, Baltimore, Md.

SIR: You are advised that authorization No. 1163, which permits you and the other members of the referee board to perform travel within and throughout the United States in connection with your duties as consulting scientific experts, is hereby so amended as to permit you and your assistants to attend the convention of the Association of State and National Food and Dairy Departments, to be held at Denver, Colo., beginning August 23, 1909, and I trust that you and your assistants will be able to attend that meeting while en route to or from the Pacific coast.

Secretary Wilson. I guess that is correct. What do you want to know about it?

The Chairman. I want to know, if this attendance was in line with their official duties, as stated here, why it was necessary they should have special authorization when they had a regular authorization?

Secretary Wilson. I presume they had some doubts about stopping off at Denver being in their original authorization. If they had, then I gave them all the authorization they would need.

The Chairman. If there were any doubt it would be doubt as to whether or not that came within their official duties?

Secretary Wilson. Precisely.

The Chairman. Do you hold that you have executive authority to add to the official duties of the Remsen board other than that prescribed in the order creating them?

Secretary Wilson. To this extent; yes.

The Chairman. To that extent you have?

Secretary Wilson. Yes.

The Chairman. I presume the same reply would be applicable as to the special authorization issued to Mr. McCabe?

Secretary Wilson. The same thing, although I do not remember now what authorization it was.

The Chairman. I will say to you, if you care to go into it, that I have a copy of the special authorization. It has been sent to me, but I presume it is not necessary to produce it at this point.

Secretary Wilson. Not at all; I take your word for it.

The Chairman. Do you consider there is any degree of doubt about Solicitor McCabe having the right and official duty to attend that particular convention any more than did the Remsen board?

Secretary Wilson. I do not imagine there would be much difference.

The Chairman. Was Mr. McCabe placed upon the program at that meeting, so far as you remember?

Secretary Wilson. That I do not remember.

The Chairman. Do you remember whether or not he was invited to address the convention?

Secretary Wilson. That I do not remember, either.

The Chairman. Do you remember whether any request came from that association officially to Mr. McCabe to attend that meeting or not?

Secretary Wilson. That I do not remember, either.

The Chairman. You stated there did such a request come to members of the Remsen board?

Secretary Wilson. Oh, yes; there is no question about that.

The Chairman. Would you mind, Mr. Secretary, looking up that question and placing in the record a statement as to whether or not there was a request came from the association to Mr. McCabe to attend?

Secretary Wilson. I will be glad to do it.

The Chairman. We will be glad if you will do that.

Secretary Wilson. I will be glad to do it, Mr. Chairman.

(Note.—On revising this testimony, Secretary Wilson finds, upon inquiry, that Mr. McCabe attended this convention at Denver as a delegate from the Department of Agriculture.)

The Chairman. In your letter of July 25, 1911—and I have the letter, if you care to refer to it—to Floyd W. Robison, in giving the reasons for his dismissal from public service, you stated that Dr. Robison attracted attention by taking a strong and public position at the Denver convention against the policy of your department and of the administration. I believe at that time Dr. Robison was a member of the Department of Agriculture, was he not?

Secretary Wilson. Dr. Robison's position in the Department of Agriculture at that time, I think, was a little bit peculiar. Dr. Robison was recommended to me by, I think, Dr. Wiley or some of the chemists, to be employed as expert to do some day's work; that is all—just some day's work, at so much a day. He did a few days' work and then he went and associated himself for two years with the Michigan people as their agricultural chemist, and I supposed he was out altogether, and so I did not pay any attention to his activities at Denver. But he was also active at other places. As I understand it, there is quite a difference between chiefs and subordinates of that kind. I learned, however, that he had been set at work again; that he had been in your State, Mr. Chairman, and had been active there. When you start out to drive a six-horse team, Mr. Chairman, if each horse is going to pull his own way, you will never get anywhere. I do not propose to have subordinates in my department going off on tangents that are against the decisions of the three secretaries and myself, and all that, after we have gone to the expense of hiring such noted experts and scientists as we did to make up that referee board. I propose the gentlemen will work in line or keep still about it.

The Chairman. That particular phase was covered in full in Dr. Robison's testimony, and I want to get your version of it. In what particular way, Mr. Secretary, if you care to state it, did Dr. Robison oppose your policies at the Denver convention?

Secretary Wilson. Dr. Robison was not frank in that testimony before you. He did not say a word to you about his being away two years. He really did not belong to our department. But under that old appointment he had a few days' work which he was put on actively at New York, and I did not think it ought to be without my knowing it.

The Chairman. That is all right about that; but will you kindly explain again in what way at Denver he was opposed to your policy or to the policy of your department? In what particular thing did he oppose your policy? What particular thing did he do or what particular thing did he favor that was opposed to it?

Secretary Wilson. He was connected with a committee or board to get up resolutions, is my recollection.

The Chairman. He stated he appeared there as chairman of the board.

Secretary Wilson. Yes; appointed at this Mackinac Island meeting, I think.

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The Chairman. Did you understand, Mr. Secretary, that his action in reporting there was a personal one, or that he was acting for the committee?

Secretary Wilson. If he belonged to the Department of Agriculture, he should have gotten consent from the Department of Agriculture to do that kind of work. The fact is, he did not.

The Chairman. You mean he should have gotten consent before he accepted the chairmanship of that board?

Secretary Wilson. Surely.

The Chairman. He should?

Secretary Wilson. He should have done so.

The Chairman. Was Dr. Robison there at the expense of the Department of Agriculture?

Secretary Wilson. No; he was not. And I do not think he belonged to the Department of Agriculture at that time. I think he belonged to the Michigan people.

The Chairman. The only opposition he could show was as being opposed to the decisions of the referee board in the matter of benzoate of soda. That is it, is it not?

Secretary Wilson. Precisely it. That was the dividing line.

The Chairman. You also stated that he appeared in the federal court in Indianapolis in opposition to the policies of the Department of Agriculture. Please explain in that regard.

Secretary Wilson. If he belonged to the Department of Agriculture, he should have consulted me before going anywhere to discuss or act with regard to that question. That is the position I took.

The Chairman. Is it not true that Dr. Robison is the only employee of the Department of Agriculture who appeared in Indianapolis and testified in behalf of the state in that suit?

Secretary Wilson. That I do not know.

The Chairman. Has any other employee who attended there for the State of Indiana been called to your attention as attending?

Secretary Wilson. I have no recollection.

The Chairman. Is it not also true that at least four of the employees of the Department of Agriculture did attend at Indianapolis and testified for the plaintiffs in that case?

Secretary Wilson. It has come to my attention that we paid the expenses of one, and I have heard incidentally that there were two others there. I never heard of the fourth.

The Chairman. I am making that statement of four upon the statement of the attorney, Mr. Baldwin. Up to that time I only knew of three who were members of the Remsen Board. I believe Mr. Baldwin stated there were four, one coming from Kentucky.

Secretary Wilson. I do not happen to know of anybody that would go there from Kentucky, but I do not think that is very important.

The Chairman. The records of your department would show that those employees of your Department of Agriculture who appeared at Indianapolis are still within the employ of the government, will they not?

Secretary Wilson. I think so, if they are.

The Chairman. And those records will also show that Dr. Robison was discharged?

Secretary Wilson. Oh, the records will show that, surely.

Correspondence

Informing the "Typhoid-Carrier"

To the Editor:—It has been found that 3 to 5 per cent. of the patients recovering from typhoid are "carriers," that is, have typhoid bacilli in their stools even after they are well enough to be up and about. These unfortunate individuals are a danger to those about them and constitute one of the most difficult problems in preventive medicine. Although physicians are well aware of these facts, very little is done to minimize this source of infection. Hospital patients and private patients are discharged from observation without an examination to discover which are the "carriers" and which are rid of typhoid bacilli. This *laissez-faire* attitude is probably due to the irksomeness of routine bacteriologic examinations, and to the realization that we are in possession of no means of curing a "carrier." Nevertheless, I believe that we are not justified in taking this position, in sending patients back to their homes in ignorance of the fact that they may readily transmit typhoid to their friends and relatives. Although it is true that we cannot rid them of typhoid bacilli, there would be a decided advantage in most cases if the individuals were aware of their infectious state. As things are now, they go home and take no precautions, many of the women cooking the meals or at least handling the food as usual. They do not know that they should observe especial cleanliness in the various sanitary matters which it is unnecessary to detail.

I feel that this state of affairs constitutes a very weak link in the chain of the prophylaxis of typhoid. It seems to me that it would not involve too great labor to have a bacteriologic examination made of the stools before each typhoid patient is discharged from the hospital. It would not be possible to detain the patient until a negative culture could be obtained, as we do in the case of diphtheria; however, we could inform the "carrier" (and possibly the board of health as well) of his condition, and give him written instructions as to the precautions which he should observe. We might even arrange for subsequent stool examinations by the hospital or by the board of health, so as to acquaint the patient when he is finally rid of the bacilli.

This subject was recently brought home to me with emphasis when, following the discharge from the hospital of two children who had been suffering from typhoid, a third case immediately developed in the home.

ALFRED F. HESS, New York City.

The Home for Widows and Orphans of Physicians

To the Editor:—In a communication by me to THE JOURNAL of Aug. 28, 1909, page 735, regarding the "Fund for Relief of Widows and Orphans," founded by the Medical and Chirurgical Faculty of Maryland in 1903, I stated that it was our hope eventually to found here also a home where the widows and children needing it could be cared for, the children educated and helped to get a start in the world and even helpless or superannuated physicians could find a shelter. It was our purpose and desire that this work, like the fund, should be under the direction and control of the faculty, which is the state medical society. Unfortunately it was found that the charter of the society gave no authorization for the institution and the advice of lawyers who were consulted was against its assumption.

Believing thoroughly in the urgent need of a home and compelled to act independently, we set to work to raise funds. The result of our efforts so far—a little over a year—is a substantial fund in the bank, and we are now on the lookout for a suitable property within the city with a view to purchase. We propose to start within the city, where it will be convenient to our workers and in a modest fashion work up.

And now we appeal to the members of the medical profession throughout the United States for their aid. By its charter the home is to be one for the "widows and orphans of physicians" and this in no limited sense. The institution is national in scope and those for whom it is designed will be welcomed whether they come from the north or the south, the east or the west. Those worthy will be admitted without unnecessary delay and without admission fee. We hope to see it grow rapidly and to be able to accommodate all who need assistance. We ask contributions of all whose hearts can be touched by pity or suffering. We ask for the widows and orphans of our brethren. Who knows but that our own widows and orphans may some day need this very help?

EUGENE F. CORDELL, M.D., Treasurer.
237 W. Hoffman Street, Baltimore.

Factors in Death-Rate.—Hoffman, in his paper on the "General Death-Rate of Large American Cities," enumerates the following factors as affecting the rate: size of city, density of population, latitude, longitude, elevation, rate of annual increase, proportion of males, of foreign-born, of foreign parentage, of colored, of illiterate, of male wage-earners, of ages, the mean annual maximum and minimum temperature, and mean annual relative humidity; so that the general death-rate, when analyzed, is found to be based on a very complex set of props, and the influence of the most important must be measured before accepting it as an index of mortality.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

LANOLIN NOT A PROPRIETARY

To the Editor:—In saying that "lanolin" is a "non-proprietary name" (THE JOURNAL, Sept. 9, 1911, p. 902), do you mean that it is neither trademarked, patented or in other ways protected? I should be pleased to know that.

ADOLPH KOENIG, Pittsburgh.

ANSWER.—In the case of lanolin the supreme court of the State of New York upheld the principle that as the name given by the parent to the child belongs to the child, so the name applied to a product belongs to that product and not to those who gave the name. Therefore, the court ruled that the name used to designate a patented product becomes the proper designation of that product and that, when the patent expires, others may make and sell the product and may also apply the name originally used by the owners of the patented product. In the lanolin case it was held that anyone could manufacture the product and could call it lanolin so long as no attempt was made to mislead the buyer into believing that the particular product was made by the original patentees, when it was not.

BREEDING PLACES FOR FLIES AS NUISANCES—DISPOSAL OF WASTES IN A NON-SEWERED TOWN

To the Editor:—1. What sanitary regulations would you consider advisable and practicable in regard, particularly, to disposal of livery stable and other manure in a small, flat, river-valley town without sewers? 2. Suppose in the absence of adequate town or county regulations a citizen relied on a statutory prohibition of "nuisances," and prosecuted an offender, say a livery stable keeper, for depositing and accumulating manure in proximity to dwellings, what test might reasonably be applied in defining the term "nuisance"? Could such manure fairly be considered a "nuisance" after one day, or one week, or one month? 3. What time would be needed for the incubation of flies in such manure?

W. R. TYMMS, Orting, Wash.

ANSWER.—1. It could not be considered an unreasonable sanitary regulation to require that stalls be cleaned daily and that stable manure be kept in closed, or at least carefully screened, bins to prevent access of flies, and that it be removed therefrom at least once a week. This would no doubt prevent the breeding of flies and would avoid any considerable accumulation of the manure and consequent nuisance. In addition, to prevent the breeding of flies, a regulation requiring the sprinkling of the daily accumulation with a solution of iron sulphate, one pound to the gallon of water, might be adopted. This is cheap and is said to be effective, and does not spoil the manure for fertilizing purposes. The manure when removed should not be deposited in heaps on the ground, particularly within the town limits, but should be immediately thinly spread. It will then dry out and will not afford a good breeding place for flies.

2. The Supreme Court of Washington has suggested that the question of nuisance or no nuisance cannot be determined by reference to the rules of the common law, but that each case must be considered on its own facts. The case of Everett *vs.* Paschall (111 Pac. R. 879) was briefly abstracted in the Medicolegal Department of THE JOURNAL, Jan. 28, 1911, p. 296, under the heading of "Private Tuberculosis Sanitariums As Nuisances." Other instructive comparatively recent decisions of that court on the general subject of nuisances are Thornton *vs.* Dow (111 Pac. R. 899), and Densmore *vs.* Evergreen Camp (112 Pac. R. 255). Coker *vs.* Birge (9 Ga. 425) is an old case holding a livery stable near a hotel to be a nuisance, while in Albany Christian Church *vs.* Wilborn (112 Ky. 507), a private stable near a church is held not necessarily to be a nuisance, everything depending on how it is kept.

3. According to observations by the Public Health Service the eggs of flies were hatched eight hours after being laid; Newstead of Liverpool found that in a temperature of from 75 to 80 F. they hatched in from eight to twelve hours; in a temperature of 60 F. in twelve hours, but at 45 F. they did not hatch until they were brought into a warmer atmosphere on the third day. The duration of the egg stage, as observed in Washington, was usually eight hours; that of the larval stage less than five days. The adult fly may emerge between the third and fourth day after pupation—making in all nine days from the laying of the egg to the appearance of the grown fly. Where the manure is in small piles, or is partly spread out, the full-grown larvæ almost ready for transformation are apt to migrate into the loose ground under the pile or from the edges of the pile outward, to transform under nearby rubbish. This habit may have a very important practical value, since municipal regulations of individual stable practice in regard to the removal of manure should take into consideration that such removal at intervals longer than those required for the larva to reach full growth may result in the leaving of many puparia, except, of course, in cases in which especial receptacles for manure are in use.

Literature on the subject was cited in this department June 24, 1911, p. 1900, and in the Miscellany Department Sept. 3, 1910, p. 875. The latter also refers to the disposal of human excreta. See also the Department of Book Notices, this issue, page 1079.

OPEN-AIR TREATMENT OF BURNS

To the Editor:—Please describe in brief the open-air treatment of burns.

C. L. OLSON, McIntosh, S. Dak.

ANSWER.—The open-air treatment of burns was described in THE JOURNAL, Aug. 18, 1906, page 529, as follows: Concerning the local treatment of the burned area, the tendency at present is to the open-air method. The uncovered skin is left exposed to the air, blebs are removed, the area gently dried, dusted with stearate of zinc or other bland dusting powder, and fanned to hasten drying and the formation of crusts. Contrary to early ideas the pain under this line of treatment soon subsides and healing is more rapid than under moist dressings. The unburned portion of the surface should be bathed and cleansed often and the temperature of the room should be maintained high in order to favor the action of the skin. The air must be kept as pure as possible and the utmost cleanliness maintained about the bed linen and everything else that comes in contact with the patient. A liberal supply of pure water should be provided, and only liquid nourishment allowed until the dangers of intestinal complications have passed.

TEXT-BOOKS ON MATERIA MEDICA

To the Editor:—Is there any materia medica published which classifies and describes the medicines under their principal therapeutic action—e. g., medicines acting on the heart, nervous system, pulmonary system, etc.?

E. H. SAUVIGNET, Laredo, Tex.

ANSWER.—The principal text-books of materia medica classify drugs in one of four ways: 1, according to origin; 2, according to composition; 3, according to physiologic action; 4, alphabetically.

In the first class is Culbreth; in the second class, Phillips; in the third class, Bartholow, Butler, Cushny, Sollmann, Stevens, Wilcox, Wood; in the fourth, Hare, Potter and Shoemaker.

NO RECIPROCITY BETWEEN NEW YORK AND NEW JERSEY

To the Editor:—Does New Jersey have reciprocal relations in medical licensure with New York?

C. M. E.

ANSWER.—Reciprocal relations between New York and New Jersey were discontinued in 1910 and have not been resumed.

FORMULA FOR FELT OR CLOTH SPLINT

To the Editor:—In THE JOURNAL, Sept. 9, 1911, p. 918, *F. S. B.* asks for a formula for a good cloth or felt splint. He will find the following very useful:

One pound of gum shellac is dissolved in 1½ pints of alcohol with 1 dram of borax. This makes a thick solution. In order to make the splints, the solution should be applied on one side of a woolen cloth with an ordinary paint brush and dried thoroughly; then a second coat is applied on the same side and dried as at first, making a single piece. If a stronger piece is needed the solution should be applied on the sides of two pieces that have already been saturated, and put together and pressed with a hot iron until they unite and become as one piece. Cloth that has been worn is better than new cloth, for it is more porous and takes up more of the solution. The alcohol should be evaporated out of the cloth before applying the second coat; also good shellac that has not been adulterated should be used. It will dissolve in a few moments if held in hot water. The splint can be tempered by holding before a hot fire till soft, then placing in a cold atmosphere or in cold water.

For dressing the limb, the splint should be immersed in hot water or held before a hot fire till soft; then applied and shaped to the limb; then removed and lined with some soft material, reapplied and bandaged.

A. E. SPALDING, M.D., Luverne, Minn.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phoenix, October 2-3. Sec., Dr. Ancil Martin.

COLORADO: The State Capitol, Denver, October 3. Sec., Dr. David A. Strickler, 612 Empire Building.

GEORGIA: Regular, Atlanta, October 10. Sec., Dr. C. T. Nolan, Marietta. Homeopathic, Atlanta, October 10. Sec., Dr. R. E. Hinman, 106½ Whitehall Street.

IDAHO: Wallace, October 3-4. Sec., Dr. O. J. Allen, Bellevue.

ILLINOIS: Coliseum Annex, Chicago, October 26-28. Sec., Dr. J. A. Egan, Springfield.

LOUISIANA: New Orleans, October 19-21. Sec., Dr. A. B. Brown, 108 Baronne Street.

MICHIGAN: Legislative Bldg., Lansing, October 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: State University, Minneapolis, October 3. Sec., Dr. W. S. Fullerton, St. Paul.

MISSISSIPPI: State Capitol, Jackson, October 10-11. Sec., Dr. S. H. McLean.

MISSOURI: Kansas City, September 25-27. Sec., Dr. Frank B. Hiller, Jefferson City.

MONTANA: The Capitol, Helena, October 3. Sec., Dr. W. C. Riddell.

NEW JERSEY: The State Capitol, Trenton, October 17-18. Sec., Dr. H. G. Norton, 429 E. State Street.

NEW MEXICO: The Capitol, Santa Fe, October 9-10. Sec., Dr. J. A. Massie.

OKLAHOMA: Muskogee, October 10. Sec., Dr. John W. Duke, Guthrie.

RHODE ISLAND: Room 315 State House, Providence, October 5-6. Sec., Dr. Gardner T. Swarts.

UTAH: Salt Lake City, October 2-3. Sec., Dr. G. F. Harding, 310 Templeton Building.

WYOMING: Riverton, October 9-11. Sec., Dr. A. B. Tonkin.

Pennsylvania June Reports

The Medical Council of Pennsylvania reports the written examinations held at Philadelphia, Pittsburgh and Harrisburg, June 27-30, 1911. The number of subjects examined in was 9; percentages required to pass, 75. At the examinations held by the State Medical Society of Pennsylvania, at Philadelphia and Pittsburgh, the total number of candidates examined was 377, of whom 359 passed and 18 failed. The following colleges were represented:

PASSED			
College		Year Grad.	Total No. Examined.
Yale University		(1908)	1
Chicago College of Medicine and Surgery		(1911)	2
University of Louisville	(2, 1910)	(3, 1911)	5
University of Maryland	(1909) (1910)	(6, 1911)	8
Baltimore Medical College	(1908)	(4, 1911)	5
College of Phys. and Surgs., Baltimore	(1908)	(3, 1911)	4
Baltimore University		(1904)	1
Johns Hopkins University	(1908) (1910)	(5, 1911)	7
Maryland Medical College	(1910)	(2, 1911)	3
Harvard Medical School	(1884)	(1911)	2
Univ. of Michigan, Dept. of Med. and Surg.	(1905)	(1910)	2
Detroit College of Medicine		(1911)	1
University of Buffalo	(1898)	(2, 1911)	3
Columbia University, College of Phys. and Surgs.		(1909)	1
Leonard Medical School		(1909)	1
Starling-Ohio Medical College		(1911)	2
Western Reserve University		(1909)	1
University of Pennsylvania	(1897) (1908) (2, 1909) (2, 1910)	(76, 1911)	82
Jefferson Med. Coll.	(1906) (1909)	(7, 1910) (64, 1911)	73
Temple University		(1910) (19, 1911)	20
Medico-Chirurgical College, Philadelphia	(1909) (4, 1910)	(57, 1911)	62
University of Pittsburgh	(1909) (3, 1910)	(46, 1911)	50
Woman's Medical College of Pennsylvania	(1906) (1908) (1910)	(16, 1911)	19
University of Vermont		(1904)	1
University of Virginia		(1911)	1
McGill University, Montreal		(1907)	1
University of Giessen, Germany		(1901)	1

FAILED			
College		Year Grad.	Per Cent.
Georgetown University		(1908)	71.2
Howard University		(1909)	62.7
University of Louisville (1911) 52.8, 62.3, 71.5, 71.7, 72.			
College of Physicians and Surgeons, Baltimore		(1910)	65
Woman's Medical College of Baltimore		(1904)	70.1
Maryland Medical College		(1911)	71.2
St. Louis College of Physicians and Surgeons		(1908)	69.5
Medico-Chirurgical College, Philadelphia		(1910)	68.9
University of Pittsburgh		(1911)	74.2
University of Pennsylvania	(1909) 74.2;	(1911)	63.7, 73.1
University of Nashville		(1910)	66.7
University of Naples, Italy		(1902)	62.2

At the examination held by the Homeopathic Medical Society at Philadelphia, the total number of candidates examined was 39, of whom 37 passed and 2 failed. The following colleges were represented:

PASSED		
College	Year Grad.	Total No. Examined.
University of Michigan Homeopathic College	(1908)	1
Hahnemann Medical College and Hospital, Philadelphia	(1910) (29, 1911)	30
New York Homeo. Medical College and Hospital	(1911)	1
Cleveland-Pulte Medical College	(1911)	5

FAILED		
College	Year Grad.	Per Cent.
Hahnemann Med. Coll. and Hosp., Philadelphia	(1910)	66.8
Cleveland-Pulte Medical College	(1911)	63.5

At the examination held by the Eclectic Medical Society at Harrisburg, the total number of candidates examined was 41, of whom 39 passed and 2 failed. The following colleges were represented:

PASSED		
College	Year Grad.	Total No. Examined.
Baltimore University	(1903)	1
Maryland Medical College	(1910) (23, 1911)	24
Baltimore Medical College	(1905) (1910)	2
University of Maryland	(1909)	1
Eclectic Med. Coll., Cincinnati	(1896) (1910) (5, 1911)	7
Medico-Chirurgical College, Philadelphia	(1910) (1911)	2
University of Naples, Italy	(1901) (1904)	2

FAILED		
College	Year Grad.	Per Cent.
Maryland Medical College	(1911)	73.5
Atlantic Medical College	(1910)*	

* Did not complete the examination.

The Public Service

Medical Corps, U. S. Navy

Changes during the week ended Sept. 16, 1911.

Wells, H., medical director, detached from command of the naval hospital, Portsmouth, N. H., and ordered home.

Higgins, S. L., P. A. surgeon, ordered to duty at the naval hospital, New York.

Huff, E. P., P. A. surgeon, detached from the Navy yard, Washington, D. C., and ordered to duty at the naval hospital, New York.

Porter, F. E., P. A. surgeon, ordered to the Navy yard and to additional duty at the naval hospital, Portsmouth, N. H.

Crow, G. B., asst. surg., ordered to duty at the naval hospital, Philadelphia.

Bogan, F. M., surgeon, detached from the *Wisconsin* and ordered to duty at the naval hospital, Portsmouth, N. H.

Rennie, W. H., P. A. surgeon, detached from the *Tacoma* and ordered to the *Wisconsin*.

U. S. Public Health and Marine-Hospital Service

Changes for the fourteen days ended Sept. 13, 1911.

Glennan, A. H., asst. surg.-gen., granted nine days' leave of absence from Sept. 7, 1911.

Cofer, L. E., asst. surg.-gen., granted ten days' leave of absence from Sept. 18, 1911.

Austin, H. W., surgeon, detailed to represent the Service at the annual meeting of the American Hospital Association to be held in New York City, Sept. 19-22, 1911.

Carter, H. R., surgeon, granted seven days' additional leave of absence from Aug. 31, 1911.

McIntosh, W. P., surgeon, leave of absence for fifteen days from Sept. 1, 1911, amended to read "fifteen days from Sept. 4."

Wertenbaker, C. P., and Young, G. B., surgeons, detailed to represent the Service at the next annual meeting of the Association of Military Surgeons, to be held at Milwaukee, Wis., Sept. 26-29, 1911.

Eager, J. M., surgeon, directed to proceed to Marseilles, France, for duty in the office of the American consulate.

Gardner, C. H., surgeon, granted ten days' leave of absence from Sept. 5, 1911, on account of sickness.

Foster, M. H., P. A. surgeon, directed to proceed to Stapleton, N. Y., and report to the medical officer in command for temporary duty and assignment to quarters.

Grimm, R. M., asst. surgeon, detailed to make an investigation of local outbreaks of pellagra.

Del Valle Atiles, Pedro, A. A. surgeon, granted thirty days' leave of absence from Sept. 1, 1911.

Duffy, Francis, A. A. surgeon, granted twenty days' leave of absence from Sept. 1, 1911.

Hembree, A. T., A. A. surgeon, granted fifteen days' leave of absence from Aug. 15, 1911.

Kaplan, Maurice L., A. A. surgeon, granted seven days' leave of absence from Aug. 15, 1911, under paragraph 210, Service Regulations.

Kennedy, S. R. M., A. A. surgeon, granted thirty days' leave of absence from Sept. 1, 1911.

Moorer, M. P., A. A. surgeon, granted fourteen days' leave of absence from Sept. 5, 1911.

Robinson, H. D., A. A. surgeon, granted seven days' leave of absence from Sept. 11, 1911.

Turbell, R. C., A. A. surgeon, granted thirty days' leave of absence, with pay, from Aug. 21, 1911, and thirty days, without pay, from Sept. 20, 1911.

Clegg, Moses T., assistant director, Leprosy Investigation Station, leave of absence for twenty-eight days, with pay, from July 12, 1911, and two days, without pay, from Aug. 14, 1911, amended to read "twenty-six days, with pay, from July 12, 1911."

Stiles, C. W., professor of zoology, directed to represent the Service at the Conference on Hookworm Disease to be held in Nashville, Tenn., Sept. 14-16, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

INFANT WELFARE IN LEIPSIC

By Charles R. Henderson, Ph.D., D.D.
Professor of Sociology in the University of Chicago
CHICAGO

The organization of Leipsic is selected as a concrete illustration of recent tendencies in German cities because it is relatively well developed and because it was early in the field. Its administrative measures cannot be slavishly copied, but they are suggestive for American cities, where lawyers, physicians and philanthropic workers are wisely joining forces.

In Leipsic the local court centralizes guardianship for all public wards in one city office, an arrangement which simplifies the judicial tasks and makes the guardianship more effective. This central office, with expert lawyers in charge, is responsible to the court for all illegitimate children in Leipsic from birth to the end of school age, whether in charge of the mother or of some other person. Legitimate children placed with foster parents at public cost are under the same supervision. The care is extended to majority.

Every birth is reported to the police office by the midwife or physician. Neglect of this important duty is punished. Then begins the activity of the physician for foster children, the man who was a pioneer in rational and effective methods, Dr. Taube. In the splendid new city hall, the medical staff have commodious quarters: office for inspections, large waiting-rooms, consultation and nursing rooms and even courts for baby carriages. The municipal authorities evidently appreciate the importance of infant welfare. The mother or foster mother must present the child soon after its birth, on Friday afternoon, in one of the places appointed. From the beginning, the child is under medical control. Dr. Taube has long insisted that "it should be legally forbidden for any one to assume charge of an infant in return for payment without knowledge of the central office." The direct supervision of the infants, after the examination by the physicians, is carried out by women assistants who are carefully selected, trained and paid. They receive at first $125 yearly and may be advanced to $300. Twenty-one days each year are given for vacation. From personal observation, from actual visits of inspection in the dwellings of the poor, and from authoritative information, I have received a very favorable impression of these supervising women. Each one of them is assigned about 285 to 300 children; for inspection the very young, the sick and the feeble are visited most frequently. The observations made and recorded, extend to rooms, beds, food, clothing and conduct of the foster parents. Cases of suspected communicable diseases are isolated. Sick children are treated by other city physicians at cost of the sickness insurance or poor relief funds.

Foster parents must be approved by the central office. In many places visited in the city the dwellings were defective and crowded, especially where poor, unmarried mothers are compelled to live. Here one realizes the close connection of housing reform and infant mortality, for without the sharp and competent inspection of the women assistants good results would be impossible. The foster parents are paid about $1.25 a week.

Another tour of inspection with Dr. Taube, revealed the inner workings of the system in the rural colonies when the central office places children until their fourteenth year, at which time they are apprenticed. Each colony has from fifty to sixty wards in as many foster homes, and is placed under the supervision of a resident who is generally the village pastor. This superintendent is not paid for his services, but for outlays he receives about $1.25 a year for each child. In addition to this, the places are constantly inspected by trained visitors and physicians. Medical services are paid by the city.

A children's home supplements the municipal activity and comes under the same medical control. This institution was founded in 1878 by benevolent individuals and is especially designed for unmarried mothers, frequently domestics, before and after their first confinement. The woman can come several weeks or months before confinement and must promise to remain six months to nurse the child and, perhaps, some motherless infant. The housework is done by the inmates. Nurslings thrown on the care of the city are temporarily kept here. The institution also trains children's nurses. In the year 1910, 325 children were cared for, with forty-four deaths (13.5 per cent.). On the day of my visit in August, 1911, there were 110 children.

Since the year 1906, nursing premiums have been given to those mothers to whom nursing the child would involve a loss of earnings, or who, from poverty, could not give the breast without assistance. The weekly allowance is from 75 cents to $1.50, paid out by a mature and married officer at a place appointed for consultations. These premiums are not counted as poor relief. In 1908, there were, 1,316 requests for this aid, and $6,000 are in the city budget for the purpose. One private society gives aid to married mothers at confinement, and another gives attention to legal protection.

Sick and indigent illegitimate nurslings and children of dependent mothers are given milk through contracts made with several milk dealers who are required to supply milk at 5 cents a quart, 3 per cent. fat content being required. Dr. Seiffert's laboratory controls the quality of this milk, and all milk is also subject to inspection by the health office. Milk depots do not exist, "because they are too dear, are invoked too late and have a tendency to hinder breast feeding." The mothers are taught to boil milk when nursing.

At the end of 1910, of the 9,323 children who were on the records of the municipal office, 7,443 were under this general guardianship.

The collection of money from fathers is a necessary factor in reducing infant mortality. In 1910, 2,213 fathers of illegitimate children paid over $90,000. Since the beginning of 1900 more than $300,000 have been thus contributed. Where mothers are working for wages they are automatically insured against sickness and the fund provides medical relief. If there is no insurance the city physician is called.

The reduction of mortality of illegitimate infants from 33.4 per cent. in 1904 to 21.05 per cent. in 1910 is substantial evidence that the new methods are efficient. The mortality from summer diarrhea is lower with the illegitimate than with the legitimate children, because of the closer supervision of the former. The number of atrophic children at the end of the nursing period has sensibly diminished.

Moral results cannot be tabulated. But it is believed by the authorities that the more complete enforcement of the law tends to make men more thoughtful.

The lesson for American cities is obvious. We need a central and trained guardianship for all children who require protection. In a central municipal authority should be coordinated all the medical, legal and educational public forces. Public and private charity should be auxiliary and cooperative. The details must be worked out by study and experiment. The Leipsic organization is rich in hope and instruction.

To City Councillor Dr. Weber and to Private Sanitary Councillor Dr. Taube I am deeply indebted for explanations, documents and opportunity of seeing at close range, through a prolonged stay, the many activities of their department.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[NOTE.—The pamphlets containing the outline of the postgraduate study course for county societies for the coming year are ready for distribution. Secretaries of county societies can secure supplies by writing to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Ave., Chicago.]

First Month—Third Weekly Meeting

ANGIOMA

SIMPLE NEVUS: Varieties, structure of each, distribution.
CAVERNOUS NEVUS: Structure, distribution, prognosis.
PLEXIFORM ANGIOMA: Structure, distribution.

LYMPHANGIOMA

LYMPHATIC NEVUS: Microscopic changes, distribution.
CAVERNOUS LYMPHANGIOMA: Structure.
LYMPHATIC CYSTS: Structure, occurrence, distribution, prognosis.

SARCOMA

GENERAL CHARACTERS OF SARCOMA: Vascular supply, metastasis, capsule, infiltration, lymphatic supply, secondary changes, distribution.
ROUND-CELLED SARCOMA: Microscopic section, distribution, age, prognosis.
LYMPHOSARCOMA: Microscopic section, distribution, age, prognosis.
SPINDLE-CELLED SARCOMA: Microscopic section, distribution, prognosis.

ALVEOLAR SARCOMA: Microscopic section, origin, distribution.
MELANOSARCOMA: Microscopic section, pigment, origin, distribution, prognosis.

CARCINOMA

ORIGIN, MICROSCOPIC STRUCTURE, VARIETIES

GLANDULAR CANCER: Distribution, gross and microscopic appearances, lymph- and blood-vessels, secondary changes, differentiate from adenoma.

SQUAMOUS-CELLED CANCER: Distribution, gross and microscopic appearances, characteristic margin, infiltration, secondary changes.

Book Notices

THE HOUSE-FLY, DISEASE-CARRIER. An Account of Its Dangerous Activities and of the Means of Destroying It. By L. O. Howard, Ph.D. Cloth. Price, $1.00 net. Pp. 312, with 35 illustrations. New York: Frederick A. Stokes Co., 1911.

This is not a scientific treatise but a book for the general reader. Nevertheless, it is accurate and complete from a scientific standpoint. Probably none of our American entomologists is better fitted to write such a book than Dr. Howard. His first publication on this subject was in 1896, when he contributed the chapter on the life-history of the fly to a bulletin on household insects published by the Department of Agriculture. In 1900, he published a long paper on the transmission of typhoid fever by flies. This volume can be commended to all who wish to learn the life history, personal habits, dangers and means of exterminating the common house-fly, the constant companion of man for centuries. Unfortunately, the character of the fly does not improve with acquaintance. His origin is not only lowly but filthy. He is prolific to an extent beyond the reach of ordinary figures. For instance, Dr. Howard estimates that one fly, survivor of a winter, laying 120 eggs on April 15 will, on September 10, be the direct ancestor of 5,598,720,000,000 adult flies, of which one-half will be females. This is the opposite of race suicide for the fly, but something very like race murder for its human associates. The book is well written, copiously and illuminatingly illustrated and well printed. It contains practically all the important facts available regarding the house-fly and is admirably adapted for popular use. An extensive bibliography is found in the appendix.

THE NATURE OF ENZYME ACTION. By W. M. Bayliss, D.Sc., F.R.S., Assistant Professor of Physiology, University College, London. Second Edition. Cloth. Price, $1.20 net. Pp. 137. New York: Longmans, Green & Co., 1911.

This volume of "Monographs on Biochemistry"—the first one to enter a second edition—covers adequately and accurately this interesting and fundamentally important subject. Presented originally in the form of lectures, it is more easy to read and assimilate than treatises of this sort are likely to be, a point of particular favor in the eyes of readers who are interested in the subject only in its general aspects. In the new edition the more recent contributions to enzyme chemistry and the theories of enzyme action have been incorporated, the author assuming the reasonably conservative attitude necessary in considering a subject in which theorization is so prominent.

DIE NEURALGIEN DER TÄGLICHEN PRAXIS. Von Dr. O. Schellong, Arzt in Königsberg i. Pr. Paper. Price, 1.80 marks. Pp. 83. Berlin: Julius Springer, 1911.

This is an instructive monograph on a very practical subject. The author bases his conclusions on an experience with 458 persons suffering from neuralgia among a clientele of 2,631 patients. He first gives a general study of the subject and follows this by a detailed consideration of the different forms of neuralgia as manifested in different nerves. A considerable number of case-reports are inserted and the treatment is succinctly described. A few synthetic remedies are given a place, but there appears to be no tendency to overestimate them.

Medicolegal

Physical Examination of Female Plaintiff Required

(Illinois Central Railroad Co. vs. Beeler (Ky.), 135 S. W. R. 305)

The Court of Appeals of Kentucky holds, in directing a new trial in this personal injury case, brought by the latter-named party, that a physical examination of the plaintiff should be ordered, if asked for by the defendant. It says that the plaintiff claimed that, as a result of her injuries, her monthly period was decreased to two weeks and she suffered from falling of the womb. An affidavit was filed, on behalf of the defendant, setting out the importance of having an examination made by some competent physician or surgeon, in order that the real condition of the plaintiff might be made to appear; and asked the court to appoint a physician and order that such an examination be made. The plaintiff objected, and filed affidavits to the effect that a medical examination could not be made to ascertain the extent of her injuries without offending decency and inflicting severe pain. No physician had made an examination to determine whether she in fact had the troubles claimed. Her family physician had only her word for it, but stated that he could easily determine by a physical examination whether the alleged troubles existed or not. In other words, here was a case where the injury complained of was not apparent. The plaintiff herself was the only person who gave any direct evidence as to her condition. Her physician did not make any physical examination, but simply took her word for her condition. Without a physical examination the defendant had no means of controverting any statement which the plaintiff might make. The character of her injury did not appear, and it was not a case from which the jury could otherwise determine the extent of her injury. In the court's opinion, this was a case in which the ends of justice would be better subserved, and the truth more likely discovered, by ordering a physical examination.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

California State Journal of Medicine, San Francisco

September

1 *Migraine. H. C. Moffitt, San Francisco.
2 Consideration of Mental Defectives. R. Moore, Los Angeles.
3 Modern Operative Procedures in Ear Affections. H. B. Graham, San Francisco.
4 Control of Pathogenic Organisms in Butter. J. N. Force, Berkeley.
5 *Determination of Sex in Human Species. D. McConnel, San Francisco.
6 Senile Skin. H. E. Alderson, San Francisco.
7 Some Types of Intestinal Indigestion in Young Children. L. Porter, San Francisco.
8 *Treatment of Tic in Childhood. E. C. Fleischner, San Francisco.
9 Prophylaxis of Arthritis. C. C. Crane, San Francisco.
10 Removal of Foreign Bodies from Lung. E. C. Sewall, San Francisco.
11 Occipito-Atlantoid and Atlanto-Axoid Dislocation. L. L. Thompson, Gridley.

1. **Migraine.**—Moffitt deplores the tendency to urge operation for the treatment of neurasthenia. He believes that more may often be accomplished for the man or woman with migraine by a rational mode of living, working and thinking than by drugs, eye-glasses or operation.

5. **Determination of Sex.**—This question the author claims to have studied in her own case, in other women and in animals. Her reasonings in the matter have led her to believe that the greater the differentiation the higher the species, the more limited the reproductive power the more confined the method of reproduction. All extraneous influence affecting reproduction in the lower orders has passed away in the higher, and the power to produce the female is vested, so to speak, not in the individual, but in the ovum. That is to say, no condition affecting the nurture of the mother herself has any power in determining the sex of the offspring, but it

is determined by some condition inherent in the ovum, and common to all women at certain times. The male element has no influence in determining the sex. The sex of the future child is determined at impregnation by the condition of the ovum at the time. The fullest development of the ovum produces the female after impregnation. The male is produced by impregnation either before the fullest development of the ovum, or after waste begins to take place. Given normal physical conditions of health in the woman, that is to say, menstrual period recurring every twenty-eight days and continuing five days, the ovum reaches its fullest development immediately before menstruation and continues to preserve that condition until two days after the cessation of the period. If fertilization takes place from one to two days before the period or from one to two days after the cessation of the period a female results, the latter method being the most successful. If fertilization takes place from four to eight days after the cessation of the period or from three to five days before menstruation the male results, the latter being unusual.

McConnel asserts that every experiment carefully carried out has resulted as desired, when the conditions of health and of physical development have been normal. She says further that if fertilization takes place from five to three days before the period a male results, and in that case menstruation demonstrates itself and the child appears to be born before its time; but if fertilization takes place just before the period, say from two to one days, a female results, and menstruation does not generally demonstrate itself, and the birth takes place three weeks later than it was expected. The count should be taken from the date of conception, whereas women count it from the cessation of the period; hence if a male is conceived days before the period, which for some unknown reason demonstrates itself in this case, he is born at a corresponding time, but the mother has counted from the cessation of the period and is out some eight days or so; whereas, if conception takes place immediately before the period a female results, but for some reason menstruation does not in that case appear and the mother counts from the cessation of the previous period and thinks she has had to wait some three weeks over her time. McConnel cannot account for these phenomena unless one may reason that if conception takes place immediately before the period that the ovum being then in its most perfect condition nature is satisfied, and the internal mouth of the uterus is closed; whereas if conception takes place some days before the fullest development of the ovum, the ordinary processes continue because the most perfect state of the ovum has not been accomplished although conception has taken place.

8. **Treatment of Tic in Childhood.**—The details of the treatment employed by Fleischner are as follows: (1) A very complete physical examination is made to be certain that the patient is not suffering from some irritation, such as follicular conjunctivitis, errors of refraction, polyps in the nose, adenoids, tight clothing, which may have been responsible, not for the tic, but for the original voluntary motion that preceded the tic and of which the tic movement is a repetition. (2) The patient is immediately taken out of school, if possible is sent to the country. (3) He is put on an easily assimilated diet, forcing the milk and eggs. (4) He is made to rest one-half hour before his meals and one-half hour after his meals. (5) The children are given very light evening meals and are put to bed within two hours of that time depending on their age. (6) Small doses of sodium or strontium bromid are given for two weeks. (7) Educational treatment. Under this heading are included those methods which enable the patient by training to control his involuntary partially or wholly subconscious movements. The method employed in the cases treated depends on the fact that the tic movements can be stopped by an effort of the will for a longer or shorter period of time by all patients. In other words, it depends on concentration. The effect of the treatment is obvious, the patient controls his tic by force of will.

Virginia Medical Semi-Monthly, Richmond

August 11

12 Diet—A Plea for Accurate Food Therapy. P. S. Roy, Washington.
13 The Economic Phase of Uncinariasis. W. A. Plecker, South Hill, Va.
14 Present Status of Surgery of the Brain and Spinal Cord. A. W. Fly, Galveston, Texas.
15 Personal Experience with Salvarsan. S. S. Gale, Roanoke, Va.
16 Achievements of the Nineteenth Century. S. Lile, Lynchburg.
17 Ileus. W. F. Waugh, Chicago.

Medical Record, New York

September 2

18 Hypophysis Cerebri. C. W. Hitchcock, Detroit, Mich.
19 *Stuttering, Its Origin and Treatment. N. J. P. Van Baggen, Hague, Holland.
20 Virtues of Salt Solution. J. M. Lynch, New York.
21 What Constitutes Hyperchlorhydria? C. S. Fischer, New York.
22 Roentgenotherapy of Malignant Tumors. A. Judd, New York.
23 Relation of Adenoids and Hyperthyroid Tonsils to Retarded Mental and Physical Development. E. B. McCready, Pittsburgh.
24 *Case of Tympano-Mastoiditis with Mental Symptoms. E. Amberg, Detroit, Mich.
25 *Extensives Herpes. G. O. Williams, Greene, N. Y.

September 9

26 *Action of Colloidal Platinum on Blood in Myelogenous Leukemia. H. Dayton, New York.
27 Clinical Uses of Sphygmograph. R. Van Santvoord, New York.
28 Michael Servetus and Discovery of Circulation of the Blood. J. Knott, Dublin.
29 Cancer. E. Atlee, Philadelphia.
30 Importance of Correct Hospital Records. R. E. Coughlin, Brooklyn.
31 Fracture of Inferior Maxilla Complicated by Complete Division of Facial Artery. W. C. Cramp, New York.
32 Aneurysm of Thoracic Aorta Treated by Abrams' Method. M. L. Turnbull, San Francisco.

19. **Treatment of Stuttering.**—The treatment resorted to in these cases in Holland is described by Van Baggen. The first thing to do when treating a stutterer, he says, is to give him a rest. So the stutterer is forbidden to speak. Some do not stutter when they speak in a whisper. These are allowed to whisper, but not more than is strictly necessary. At the same time exercises are given for breathing, vocal and articulating muscles. These exercises not only aim at the development of the muscles but also tend to favorably influence the nerve fibers associated to the muscle. Therefore the exercises must be carefully chosen in such a manner as to produce a quiet, regular movement of the muscles by means of which all stuttering is excluded. After some days the patient is allowed to speak, in the beginning only in the presence of the teacher and only for a few moments. At a later period when the patient does not stutter the discourses are prolonged. These early conversations, during which stuttering must be carefully avoided, are for the specialist one of the most difficult parts of the cure. They require the exercise of the greatest tact in leading the conversation in such a manner as to prevent the patient from stuttering. When the latter has spoken fluently for some days with his teacher without any stuttering he is allowed to converse a few moments with his family and friends. When we have succeeded so far we generally notice a rapid progress. The patient regains his self-confidence and the constant apprehension associated with his speech disappears; this has a favorable influence on the entire nervous system. When the cure is completed the patient must remain under the control of the specialist for some time, while also continuing the exercises with increasingly longer intervals. If there are adherent symptoms the exercises for the breathing, vocal and articulating muscles must be combined with slow, regular movements of the limbs. Those voluntary movements suppress the involuntary convulsions.

Van Baggen says, that when treating a stutterer it is necessary to take into consideration not only the manifest symptoms of the disease but also the temperament of the patient. The timid patient who suffers deeply from the humiliation entailed by his infirmity must be dealt with in a manner different from that with which one deals with the heedless stutterer who feels only the irksomeness of his impediment. The spoiled, undisciplined child requires firmer management, while

the bashful little stutterer must be approached with kindness. The success of the treatment depends much on a good understanding between the patient and the specialist.

24. **Tympano-Mastoiditis Exhibiting Mental Symptoms.**—Amberg cites a case of mastoiditis in a hysterical subject, which was accompanied by such prominent mental symptoms as to cause grave suspicions of brain abscess. The patient recovered perfectly after a prolonged stay in the hospital.

25. **Extensive Herpes.**—The patient was a lady, aged 68. On March 8 the herpes appeared, simultaneously on the left upper lip, in the left naris, left inner canthus, in the left middle ear and external auditory canal from the meatus back. An enormous serosanious discharge accompanied the aural lesion, saturating cloth after cloth. The membrana tympani and the ossicles were carried away. Hearing was nil with the watch at contact. Illumination showed the pulsating arch of the auditory artery. Treatment consisted in a free application of a saturated solution of alum to the naris, the lip and the inner canthus, and instillation of the same freely into the auditory canal with boric acid. The external lesions were immediately subdued; the aural discharge became purulent. After a week the alum solution was dropped, and irrigation of the canal and subsequent boric acid packing continued. The purulent discharge gradually diminished.

On the twentieth day a narrow rim of new tissue was noticed at the seat of the destroyed membrane. The packing was dropped, and twice daily gentle irrigation was made with weak boric acid solution. The rim of new tissue increased and the lumen gradually diminished. The arterial pulsations remained visible until the complete closure of the opening. This occurred on the forty-second day.

26. **Action of Colloidal Platinum.**—Temporary leukolysis followed by polynuclear leukocytosis is reported as caused by injection of colloidal metals into normal blood or that showing polymorphonuclear leukocytosis. If polymorphonuclear leukocytosis could be induced in this manner in myelogenous leukemia by such injections, one might cause replacement of myelocytes by polymorphonuclear leukocytes, which change is said to accompany the improvement in this disease under roentgenotherapy. Dayton has administered isotonic, stabilized, electrically prepared colloidal platinum, in doses of 5 c.c. hypodermically, daily or every two days, to two patients with myelogenous leukemia. No constant effects on temperature, pulse, respiration or subjective symptoms were noted, and the disease apparently progressed as usual. The only correspondence in the blood changes with those reported as occurring in normal blood or that with polymorphonuclear leukocytosis was a temporary fall in the percentage of polymorphonuclear leukocytes, but this was not accompanied in both cases by a fall in the total leukocyte count. The neutrophil myelocytes coincidently rose and the mast cells fell. Aside from these changes, the variations in the blood were no greater than are common in this disease.

American Journal of Urology, New York

August

33 *Primary Malignant Neoplasms of Spermatic Cord. D. Stetten, New York.
34 Urology Past, Present and Future. M. Krotoszyner, San Francisco.
35 *Complete Suturing of Bladder After Suprapubic Section. G. Kollscher and H. Kraus, Chicago.
36 Intravesical Operations for Tumors of Bladder. H. Binney, Boston.
37 Urethral Hemorrhages. A. Ravogli, Cincinnati.
38 Attachment for Buerger's Urethroscope. V. C. Pedersen, New York.
39 Transperitoneal and Suprapubic Approach to Tumors of Bladder. C. L. Scudder, Boston.

33. **Primary Neoplasms of Spermatic Cord.**—The tumor in Stetten's case apparently develops from the areolar tissue of the cord. Microscopically it was a very cellular, mixed small and large spindle-cell sarcoma, as is also a nodule removed from the perineum. A nodule higher up in the cord also gave the same histologic findings. This latter nodule was apparently a metastasis in one of the spermatic veins. Many of the cells of the tumor showed active mitosis and the intercellular connective tissue was rather scant. The tumor was moderately vascular. A month later a small nodule was noted in the wall of the right lower abdomen, seemingly a thrombus in the right superficial epigastric vein. This was excised under local anesthesia and found to be a sarcomatous plug in the vein, of the same nature as the primary tumor. Three months after this second operation there was found a large mass involving the perineum and extending into the root of the penis, seemingly infiltrating along the vascular channels of the corpora cavernosa and corpus spongiosum and producing a pseudo priapism without greatly increasing the diameter of the organ. There was a large mass over the left saphenous opening, most probably a metastasis via the superficial external pudic vein. Two smaller nodules were found along the course of the left superficial epigastric vein and one in the left superficial circumflex iliac. The patient had a slight cough but no signs of fluid or consolidation in the chest. There were occasional moist râles. Abdominal examination was negative.

Stetten subjected the man to a course of treatment with Coley's fluid, which he stood well. He began with ¼ drop and increased the dose gradually to 5 drops every day, injecting the fluid directly into the tumors. There was a moderate general reaction and the nodules that were injected did really decrease in size. Soon, however, a new nodule appeared on the left chest wall; metastases were noted along the vessels of both arms; fluid appeared in both chests; an increasing edema of the penis, scrotum and lower extremities, due to actual compression, developed; cachexia became very pronounced and progressive, and the patient died 6 months after the first operation. No autopsy was obtained.

35. Abstracted in THE JOURNAL, Feb. 18, 1911, p. 536.

Journal of Abnormal Psychology, Boston

August

40 Psychoanalysis of a Mixed Neurosis. H. W. Frink, New York.
41 Some Psychologic Phases of Medicine. T. Burrow, New York.
42 Asymbolia. A. Gordon, Philadelphia.

Journal of Ophthalmology and Oto-Laryngology, Chicago

August

43 Enucleation of the Eye Under Local Anesthesia. D. T. Vail, Cincinnati.
44 Neoplasms of the Larynx. C. M. Robertson, Chicago.

Texas State Journal of Medicine, Fort Worth

September

45 *When We Are Wise and Otherwise. J. M. O'Farrell, Richmond, Texas.
46 *Surgical Treatment of Pellagra; Report of Sixteen Cases. T. J. Bennett and Z. T. Scott, Austin, Texas.
47 New Methods of Syphilis Diagnosis and Therapy. I. C. Chase, Fort Worth.

45. **Public Health and Vital Statistics.**—O'Farrell sums up his remarks as follows: When we are proud to register our live stock; when we teach young men how to care for the health and well being of our hogs, horses and cattle; when we extend to such stock the solicitous attention of a well-supported department of our national government; when we carefully conserve any national resources, spending as we do millions of the common fund for reclaiming vast areas of land for our people to occupy, we are wise. But, when we are careless about registering our babies; when we fail to teach our doctors how to protect the human health; when we do not properly safeguard our human food-supply; when we neglect the conservation of the most important of all our resources, because, forsooth, it does not appear merchantable, we are, most assuredly, otherwise.

46. **Surgical Treatment of Pellagra.**—The surgical treatment of pellagra by the transfusion of blood from a healthy donor to the patient originated by Cole and Winthrop of Mobile, was used in each of the sixteen cases reported by Bennett and Scott. The results have been gratifying, a cure in thirteen cases (73 per cent.), meaning no return of the symptoms to date. Of ten patients who either refused transfusion or were treated with medicine prior to the adoption of the transfusion method, seven are now dead, and three are awaiting transfusion at the present time.

Lancet-Clinic, Cincinnati

September 2

48 Neurasthenia Concept: Attempt at Its Systematization. R. Reed, Cincinnati.
49 Colles' Immunity. C. Arym, Milwaukee, Wis.
50 European Travel Notes. A. Schachner, Louisville, Ky.

September 9

51 Left-Sided Appendicitis, with Death from Preliminary Chloroform Anesthesia. V. Rawson, Danville, Ky.
52 Life Insurance Examiner's Responsibility. A. Maxwell, Indianapolis, Ind.
53 Laboratory for Psychiatry. B. Holmes, Chicago.

Boston Medical and Surgical Journal

August 31

54 *Causes and Treatment of Paralytic Dislocations and Subluxations of Hip-Joint. J. W. Sever, Boston.
55 Interstitial Gingivitis. E. C. Briggs, Boston.
56 Wound Diphtheria. F. A. Thompson, Fitchburg, Mass., and W. R. MacAusland, Boston.
57 Rupture of Uterus Through Posterior Vaginal Fornix. A. T. Hawes, Lynn, Mass.
58 Transplantation of Bone in Correcting Nasal Deformities. A. Coolidge and D. C. Greene, Boston.

54. Paralytic Dislocations and Subluxations of Hip-Joint.—The clinical history and dynamics of this condition are discussed by Sever. His interest was stimulated by twenty-six personal cases, twenty-two of which were iliac subluxations. Sever attempted to dislocate a hip in rabbits and cats, but, owing to the firm support of the ligaments and muscles, besides the unusually deep acetabulum, the short neck of the femur, which is at very nearly a right angle to the long axis of the shaft, and the high great trochanter, he found it impossible, even when using great force. He then decided to divide certain nerves singly and together in separate animals so as to produce a condition of paralysis of the hip and leg muscles, somewhat analogous to that seen in anterior poliomyelitis. This condition he could not reproduce exactly, for in cutting the nerve trunks he not only destroyed the motor impulses, but also the sensory. The five cats all lived about three months, long enough to show changes in the joint were any going to occur. On careful dissection and inspection no changes were visible, nor could the hip be dislocated. All of the cats but one had the anterior crural divided, in the other the great sciatic was divided.

Sever concludes that subluxations of the hip-joint are not uncommon conditions following paralysis of the thigh and peritrochanteric muscles. The most important factors in their production are the unopposed contractions of the non-paralyzed muscles. The two muscles which escape the paralysis most frequently are the adductors and the tensor vagina femoris. The most common type of subluxation is upward and backward on to the ilium. The changes from atrophy in the femur and acetabulum are practically constant, and consist of a coxa valga and a shallow, flattened and elongated acetabulum. The treatment should be directed toward correcting the contractions and reducing the dislocation of the hip. The muscles may be elongated by stretching, by means of plaster casts, bed traction or division. The best method in Sever's opinion of keeping the hip reduced is by means of an arthrodesis, although this is not practical in all cases. Without treatment the tendency is toward progressive deformity. With treatment the conditions may be permanently helped. Complicating conditions make a total cure impossible, but a more useful leg should be assured under proper treatment. Walking after arthrodesis is often improved. In some cases splints may be altogether discarded. Sever does not regard it advisable to do an arthrodesis on both hips, or on any joint other than the hip and ankle on the same leg.

American Medicine, New York

August

59 Hypothyroidea. G. E. Price, Philadelphia.
60 Plea for More Careful Estimation of Capacity of Female Pelvis During Pregnancy, with a Few Surgical Suggestions. J. G. Dickert, Brooklyn.
61 High Forceps Operation: Is It Modern Surgical Procedure? A. J. Rogny, New York.
62 Sodium Chlorid and Osmosis as Factors in Health and Disease. H. O. Beeson, Grand Junction, Colo.
63 Acute Nasal Discharge in Children; Diagnosis and Treatment. L. Kerr, Brooklyn.
64 Hygiene of Growing Girls. J. C. MacEvitt, New York.

American Journal of Surgery, New York

September

65 Surgical Essentials. F. E. Neef, New York.
66 *Arthroplasty for Ankylosis. J. Wiener, New York.
67 *Advantages of Curved Incision in Certain Classes of Surgical Work. A. Bowles, Ellsworth, Kan.
68 Undescended Testicle: Three Cases in One Family. G. B. Rhodes, Cincinnati.
69 Injury in Relation to Visceral Prolapse. J. J. Moorhead, New York.
70 Removal of Rubber Plate from Esophagus. Esophagoscopy Under Local Anesthesia. R. H. Johnston, Baltimore.
71 Two Cases of Tetanus Treated with Tetanus Antitoxin. I. S. Haynes, New York.
72 New Table for Cystoscopy. V. C. Pederson, New York.
73 Abdominal Hysterotomy for Removal of Uterine Fibroid. T. V. Arumugum, Bangalore, India.
74 Water Medium Cystoscopy vs. Kelly's Method. W. Ayres, New York.

66. Arthroplasty for Ankylosis.—The following points summarize Wiener's paper: Brisement force is useful in cases only of synovial adhesions; in true bony or fibrous union it is apt to do harm. The interposition of absorbable or non-absorbable foreign bodies does not give good results. The interposition of living tissues such as hernial or hydrocele sac is unsatisfactory, as bony ankylosis regularly results. Arthroplasty is a very valuable procedure in cases of bony or fibrous ankylosis of the jaw, shoulder, elbow, hip and knee. Either muscle, or fascia with fatty tissue, should constitute the interposed flap.

67. Curved Incision in Surgical Work.—The advantages Bowles claims for the curved incision, as compared with the straight, are the following: There is a better exposure of the subcutaneous field, giving much more room to work. Less retraction is required, and this means less assistance needed, fewer fingers in the wound, and consequently less danger of infection. In looking for a foreign body imbedded in the tissues, it is found more readily and with less traumatism. In removing a growth, a much better exposure of the sides and base is possible, rendering the work of dissecting and shelling it out far less difficult. In case the work calls for an incision into the muscular tissues, they are more accessible, and the intermuscular septa and lines of cleavage are more readily found than where the straight incision has been employed and retractors have to be used to haul the sides of the wound in one direction or the other. And lastly the incision is just as readily closed, and heals as well and as quickly. The points to be observed are to direct the base of the flap toward the source of the blood supply, especially in cases in which the depth of the flap is great in proportion to the length of the incision. And if infection is feared, as in cases in which there is much dead space below the flap that cannot be perfectly obliterated, a small gauze or gutta-percha drain should be slipped in between two of the stitches or brought out through a puncture in the center of the flap.

West Virginia Medical Journal, Wheeling

September

75 Malpositions of Liver. L. Hupp, Wheeling.
76 Psychotherapeutic Value of Psychoanalysis. E. E. Mayer, Pittsburgh.
77 Glaucoma. E. R. McIntosh, Elkins, W. Va.
78 Displacements of Uterus. H. B. Jones, Wheeling.
79 Treatment of Summer Diarrhea of Children. H. G. Tonkin, Martinsburg, W. Va.
80 Treatment of Tuberculosis. L. F. Flick, Philadelphia.

Journal of Experimental Medicine, New York

September

81 *Studies with Electrocardiograph on Action of Vagus Nerve on Human Heart. G. C. Robinson and G. Draper, New York.
82 *Complement Deviation in Scarlet Fever with Comparative Studies of Wassermann and Noguchi Systems. J. A. Kolmer, Philadelphia.
83 *Addition to Technic of Cultivation of Tissues in Vitro. A. Carrel and M. T. Burrows, New York.
84 *Effect of Salvarsan on Heart in Dogs. J. Auer.
85 *Chemo-Immunologic Studies on Localized Infections. R. V. Lamar, New York.
86 *Rate of Regeneration of Blood Platelets. W. W. Duke, Kansas City.
87 Excretion of Dextrose in Stomach and Small Intestine. I. S. Kleiner, New York.
88 *Mechanism of Chlorin Retention in Pneumonia. F. Medigreceanu, New York.

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89 Composition of Urinary Albumin. F. Medigreceanu, New York.
90 *Physiologic Study of Experimental Nephritis Due to Bacterial Poisons and Cytotoxic Sera. R. M. Pearce and A. B. Eisenbrey, Philadelphia.
91 Athrepsia. H. Apolant.
92 *Nerve Fibrillæ in Pulmonary Artery of Dog. H. T. Karsner, Philadelphia.
93 Studies of Pulmonary Circulation. H. C. Wood, Philadelphia.

81. **Action of Vagus Nerve on Human Heart.**—The authors' records show that stimulation of the vagus nerve by pressure in a man with an anatomically normal heart has produced a marked slowing of both auricles and ventricles, a depression of conductivity of the heart beat from auricles to ventricles, and probably has resulted in a diminution in the force of contraction of the left ventricle. Stimulation of the right vagus nerve apparently has caused stimulation of the left. The left vagus stimulation seemed to have a more marked effect on the conduction of the cardiac stimulus from auricles to ventricles. While no significant changes were noted in this case in the action current due to auricular contraction, right-sided vagus stimulation seemed to increase the action current of the ventricles, giving rise to an increased R wave, while left vagus stimulation apparently produces the opposite effect. There is no evidence in the curves that any changes in excitability of the auricles or ventricles are produced by vagus stimulation. The records supply definite evidence to the effect that the vagus nerve controls the heart in a way which is very similar in man and in other mammals. In hearts showing auricular fibrillation mechanical stimulation of the right vagus nerve causes, as a rule, marked slowing or stoppage of ventricular rhythm, without producing any appreciable effect in the electrocardiographic record of the auricular fibrillation. The ventricular pauses are apparently due to the blocking of stimuli from the auricles. The force of ventricular systole is distinctly weakened for several beats after vagus stimulation, and ectopic ventricular systoles have been seen in several instances, apparently the result of the vagus action. There may, in some cases, be lowered excitability of the ventricles, while no constant change is seen in the size of the electric complexes representing ventricular systole.

82. **Complement Deviation in Scarlet Fever.**—Sera from 250 cases of scarlet fever, representing all stages of the disease, were examined by Kolmer according to the following plan:

1. According to the Wassermann system with the following antigens: (a) With alcoholic extract of luetic liver used as antigen, there were five, or 2 per cent., positive reactions out of the 250 sera tested. In these five cases positive reactions also resulted with scarlet fever liver antigen and with active and inactivated serum of the Noguchi system. (b) With an alcoholic extract of scarlet fever liver used as antigen; the 250 sera were tested with this antigen. The antigen itself was tested with a number of normal and syphilitic sera and was found to be antigenic in dosage from 0.25 to 0.3 c.c., and free of anticomplementary and hemolytic action. The results were practically identical with those resulting from the use of the luetic liver antigen. Deviation of complement resulted in six cases, or 2.4 per cent. These included the five cases given above with the addition of a case which also gave positive reactions with active and inactivated serum, according to the Noguchi system.

2. According to the Noguchi system: (a) With active serum there were sixteen, or 6.4 per cent., positive reactions. Five of these were with the five cases yielding positive Wassermann results. In five, or 2 per cent., of the cases the reaction was positive with active serum alone, and negative with inactivated serum by both the Noguchi and Wassermann systems. In six cases the reactions were positive with both the active and inactivated serum. In other words, with the Noguchi system there occurred eleven more positive reactions than with the Wassermann system, five of these being with active serum alone. (b) The first ninety of these reactions were made with alcoholic extract of luetic liver used as antigen, and it is well to note that four of the positive reactions which were obtained with active serum were made with this antigen.

The remaining 140 cases were tested with an antigen of acetone insoluble lipoids from which but one positive reaction with active serum resulted. Complete hemolysis occurred in 229 cases, or 88.1 per cent., and partial hemolysis in twenty-one cases, or 11.9 per cent. The amount of complement, 0.1 c.c. of guinea-pig serum, was employed because this is the usual dose recommended, although serum from different animals varies in its complement content. It emphasizes the necessity of careful titration of complement, for an excess of this factor, up to a certain limit, will give hemolysis with a decreased amount of hemolysin. The presence of anti-sheep hemolysin in normal human serum probably accounts for the negative Wassermann reaction with serum containing small amounts of syphilitic antibody. On the other hand, normal active serum will give a positive Noguchi reaction. For these reasons Kolmer agrees with Kaplan that a Wassermann and Noguchi reaction should be performed with each serum, the one acting as a control on the other.

83. **Cultivation of Tissues in Vitro.**—It is emphasized by Carrel and Burrows that in the preparation of a culture in fluid medium, an important requisite is a suitable support for the growing cells. Although fibrin is an efficient support, it can be replaced by other bodies, such as cover-glass, cotton, silk, etc. The cells grow in the fluid only if they meet with this condition of support. Therefore, the fragments of tissue must be very small in order to remain adherent to the cover glass, and the fluid must be spread out in a very thin layer about them. The growing cells cling to and spread over the surface of the glass. But if cotton threads are placed in the fluid, the cells have a better support and grow luxuriantly around them. The plasmatic medium is, beyond comparison, the optimum medium thus far studied for the growth of tissues. But cells can also grow in other media and under many different conditions.

84. **Effect of Salvarsan on Heart in Dogs.**—It was found by Auer that the intravenous infusion of 0.5 per cent. acid salvarsan causes a weakening of the heart which is usually fatal. The intravenous infusion of 0.5 per cent. alkaline salvarsan causes no marked apparent effect on the heart, but its factors of safety may be so reduced in some instances that a slight extra strain produces fibrillation and death. The animals stood the infusion of salvarsan in 0.2 per cent. or 0.5 per cent. alkaline solution very well, even with the enormous doses infused (20 to 40 mg. per kilo of body weight). No marked changes of either heart volume, blood-pressure or heart-rate are recorded. In one instance the blood-pressure and heart-rate were practically unaltered after the infusion; the heart, however, showed a moderate dilatation which persisted for about twenty minutes after the infusion. Thirty-five minutes after the infusion, the heart was apparently normal. But on removing the heart from the oncometer, and handling it very gently, it passed at once into fibrillation, from which it did not recover. Similar effects were observed in other experiments where the alkaline solution was infused. On the other hand, some hearts of the same series of experiments stood manipulation very well, and only a very transitory change in the heart's action was observed. The infusion of 0.5 per cent. acid salvarsan produces swiftly a moderate dilatation of the heart; then the blood-pressure begins to fall and reaches a low level rather promptly. During this fall, the pulse pressure diminishes rapidly, and at the lowest level of blood-pressure the heart-rate is very slow. After a low blood-pressure has been reached, the heart dilates still more and may even stop in diastole for a period of seconds. Then the heart begins to beat again, but the beats are weak and hardly affect the lever of the membrane manometer which is connected with the carotid artery. From this state the animal does not recover, though the heart, as a rule, keeps on beating feebly for a number of minutes. Results similar to those described above were obtained in practically all of the ten experiments which were made with the 0.5 per cent. acid solution.

85. **Chemo-Immunologic Studies on Localised Injections.**—Lamar found that in the test tube, sodium linoleate and sodium linolenate kill and dissolve virulent pneumococci more rapidly and in higher dilutions than sodium oleate; otherwise

their action is the same. The intensity of action on the cocci is directly proportional to the degree of unsaturation of the acid. Blood serum inhibits the bacteriolytic and hemolytic action of unsaturated soaps partially or completely, according to definite quantitative relations between serum and soap. Small quantities of serum completely inhibit the action of dilute soap solutions, but even whole serum does not prevent bacteriolysis and hemolysis by relatively concentrated soap solutions, i. e., 1 per cent. and 0.5 per cent. A given quantity of serum inhibits the action of the soaps in inverse ratio to their degree of unsaturation. The hemolytic and bacteriolytic action of soaps of the unsaturated fatty acids is probably due in part to their avidity for protein and not wholly to their ability to dissolve lipoids. Attempts to prevent serum inhibition of the lytic action of sodium linoleate and sodium linolenate were unsuccessful. The more unsaturated soaps are not as efficient in preventing fatal pneumococci infection of animals as sodium oleate.

86. **Rate of Regeneration of Blood Platelets.**—By repeatedly withdrawing, defibrinating and reinjecting blood, it was evident to Duke that the platelet count in dogs can be reduced to an extremely low level. When the reduction in platelets and fibrinogen has been carried to an extreme degree the animals display a marked tendency to bleed. The regeneration of platelets after their removal by defibrination is remarkably rapid and amounts, on an average, to about one-fifth of the entire number in the blood per day. From the experiments and from observations on the platelet count in human beings, Duke believes that under the usual conditions of life platelets are utilized or destroyed and replaced in enormous numbers daily, and that the life-cycle of the platelet is extremely short, possibly a matter of a few days.

88. **Mechanism of Chlorin Retention in Pneumonia.**—The following conclusions are drawn by Medigreceanu from an analysis of the protocols of the experiments performed by him: 1. The chlorin output is very much diminished during the process of experimental pneumonia in dogs. The quantity of chlorin retained in the patients with well developed exudates is much larger than the exudate could account for. 2. Turpentine pleurisy in dogs also is associated with a retention of chlorin, but this is not so marked as in pneumonia. There is no direct quantitative relation between the water output and the chlorin excretion. 3. Rabbits with pneumococcal septicemia did not retain chlorin in any phase of the disease, a fact which Hutchinson has also noticed. The author deems it justifiable to conclude that the retention of chlorin in the organism in the course of pneumonia is conditioned by more than one factor. The formation of the exeduate is one of these factors, but it alone is not capable of producing the same degree of chlorin retention as occurs in pneumonia. The additional factors are not yet determined; but it may be stated that the retention of chlorin is probably not due to the general effect of the pneumococcus on the organism or to its injury to the kidney. The principal cause of the retention seems, therefore, to be due to local changes associated with the pulmonary condition.

90. **Experimental Nephritis.**—The physiologic study of experimental nephritis caused by poisons of bacterial origin demonstrated to Pearce and Eisenbrey that the poisons may produce types of nephritis in which either vascular or tubular changes predominate. Diphtheria toxin produces a nephritis which in its late stage is of the vascular type, but in its early stage is distinctly tubular. Tuberculin and mallein uniformly cause lesions of the tubular type, which do not pass into the vascular type. Nephrotoxic and hemolytic immune sera cause changes in the kidneys which by physiologic methods of observation present no evidence of vascular injury, but which are anatomically characterized by exudative glomerular lesions of moderate severity. This discrepancy between the results of anatomic and physiologic study indicates that a lesion of the membrane controlling the passage of fluids may occur without alteration in the power of the vessels to contract and dilate. This fact is shown clearly by the lesion caused by hemolytic immune serum, which is in sharp contrast to the lesion caused by diphtheria toxin, since the latter substance not only alters the permeability of the membranes but also influences markedly the power of the vessels to contract and dilate. It is necessary therefore if the term "vascular" is used in its broadest sense, to recognize three types of vascular nephritis: (1) one in which little or no anatomic evidence of vascular injury is found, but in which physiologic methods show profound vascular changes, as in arsenic nephritis; (2) one in which anatomic evidence of vascular (exudative) injury is prominent, but in which the physiologic tests are negative, as in nephritis caused by a hemolytic immune serum, and (3) one in which both anatomic and physiologic changes are prominent, as in diphtheria toxin nephritis.

92. **Nerve Fibrillæ in Pulmonary Artery of Dog.**—By a method of *intra vitam* staining with methylene blue Karsner succeeded in demonstrating the presence of nerve filaments in the muscular coat of the pulmonary artery.

Detroit Medical Journal

August

94 Medical Inspection of Schools. C. B. Fulkerson, Kalamazoo, Mich.
95 Importance of Recognizing Chronic Infections. H. H. Martin, Laporte, Ind.
96 Right-Sided Abdominal Pain in Women. J. Bland-Sutton.

Journal of Medical Society of New Jersey, Orange

September

97 Final Results in Surgery. O. Killiani, New York.
98 Poliomyelitis Anterior. C. C. Beling, Newark.
99 Insanitary Housekeeping. J. W. Wade, Millville.

New York Medical Journal

September 2

100 Tendencies Toward Race Degeneracy. J. H. Kellogg, Battle Creek, Mich.
101 Nervous Affections in Relation to Adjustments of Eyes. G. T. Stevens, New York.
102 *Location of Pathologic Lesions of Genito-Urinary Tract from Epithelia Found in Urine, Proved by Operation. G. A. Wyeth, New York.
103 *Cerebral Rheumatism. E. M. Williams, Philadelphia.
104 *Triple Rhythm Heart-Block with Auricular Interruption. A. L. Benedict, Buffalo, N. Y.
105 Suction Drainage with New Form of Siphon Air Pump, as Means of Removing Pus and Blood from Abdomen and Pelvis. N. G. Bozeman, New York.
106 Research Work on Dysentery. S. R. Klein, New York.
107 Suicide in Registration Area. H. A. Brown, Washington, D. C.

September 9

108 Dilatation of Heart in Acute Fevers. H. Brooks, New York.
109 Arteriosclerosis, Cardiosclerosis and Intestinal Putrefaction. L. F. Bishop, New York.
110 Greek, Ancient and Modern Language of Medicine. H. C. Muller, Utrecht, Holland.
111 *Crotalin Treatment of Epilepsy. R. H. Spangler, Philadelphia.
112 Influence of Position in Relation to Occurrence of Mastoiditis and Its Complications. C. A. Adair-Dighton, Liverpool, England.
113 Treatment of Fractured Thigh by New Method, Involving Treatment of Fractures in General. W. H. Taylor, Port Arthur, Ontario.
114 Tendencies Toward Race Degeneracy. J. H. Kellogg, Battle Creek, Mich.
115 Treatment of Pneumonia Based on Elimination of Sodium Chlorid. H. G. Hughes, Schenectady, N. Y.
116 Curious Case of Tuberculous Meningitis. M. Freiman, New York.

102. **Genito-Urinary Lesions.**—It has often been stated that when scrapings are made from the different urinary organs the epithelia appear very similar and cannot be differentiated. This is probably true, says Wyeth, but such scrapings are no criterion for the differentiation of epithelia which are bound to become altered to a considerable degree by the scraping. If the epithelia are carefully studied *in situ*, it will soon be found that the epithelia lining the different organs are decidedly different, and they can undoubtedly be distinguished in the urine, so that a definite and correct diagnosis can be made in the great majority of cases.

103. **Cerebral Rheumatism.**—The interesting pathologic features of the cases reported by Williams in addition to the meningeal and cellular changes already described by other observers, are the presence of numerous cells similar in every respect to the so-called plasma cells, numbers of fatty granular cells, and also an abundance of globular, pale blue staining bodies, probably of albuminous nature, having their origin from the disintegrated tissue. The great intensity as well as the diffuseness of the cellular changes, Williams says, are exceptional, as is also the vast extent and degree of the neuronophagocytosis. He reviews the clinical history of this affection.

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104. **Triple Rhythm Heart Block.**—In an individual studied by Benedict the arterial pulse was fairly strong and regular, twenty-five a minute. The jugular pulse was three times as frequent and in perfect triple time, but careful inspection of the neck showed that the auricular beat immediately preceding the ventricular, was imaginary, or, at most, so faint as to be imperceptible, although the perfection and steadiness of the rhythm at first gave the impression that we had to deal with a three to one ratio of auricular to ventricular contractions. Expressed in musical notation, the condition was as follows: The treble representing the auricular, the bass the ventricular beat. It is not, however, implied that the tone of either was exactly located. Benedict suggests that as heart block is a rare condition, with which no single physician can as yet have a large experience, it is perfectly possible that the rhythm may not be so constant for the individual case as has been implied in some articles, and that a failure of the auricle to beat at the proper instant may not be at all uncommon. It is also worth while to observe the jugular wave in normal cases and in cases of valvular lesion without suspicion of heart block. There is by no means always a single pulsation in the neck to each heart beat, but often two or three slight waves. Hence, in any case of bradycardia, one who has read much about heart block and has had little or no experience with it, but who has an ambition to detect a case, may deceive himself as to the occurrence of a succession of auricular impulses.

In Benedict's case there were two marked jugular waves with a rest at the instant when the third wave would be expected, and the condition seemed to correspond as closely as could be with the type, with the exception noted. But, without kymographic experiments, Benedict says that with a very slowly acting ventricle and a firm closure of the auriculoventricular valve, it is conceivable that a double wave might occur in the blood in the auricle and great veins, without any secondary contraction of the auricle. Theoretically, the auricular contraction in the musical notation should be indicated as preceding the ventricular. Practically, it seemed to occur at exactly the same time as the radial pulse.

111. **Crotalin Treatment of Epilepsy.**—The solution which Spangler finds most satisfactory and effective consists of the dried, crystal-like scales, from the venom of *Crotalus horridus*, dissolved in sterile water, to which has been added a few drops of trikresol for its preservation and antiseptic effect. This sterile, antiseptic solution is put into sterilized ampoules, holding 1 c.c. each and sealed. Each ampoule contains one dose, which is made as strong as desired, i. e., each c.c. of solution represents 1/22, 1/75, 1/100 of a grain of the venom.

Included in the thirty-six cases cited by Spangler are twenty-four patients who were subject to only major attacks, grand mal; eleven who were subject to both major and minor attacks, and one in whom only the petit mal form was present. In nine out of the thirty-six cases the convulsions occurred in series.

A family history of epilepsy was present in nine of these cases; alcoholism in four; insanity in three; and in the remaining twenty cases of the series the family history was negative, so far as hereditary influences are usually considered. Four cases were preceded by convulsions in infancy, two by chorea, three by scarlet fever, and in one case epileptic attacks developed while the eruption of measles was present. Two cases followed attacks of typhoid and one case followed a heat prostration. There was a history of a fall (traumatism) in four of the cases, and of a severe fright in three. Menstrual irregularity was associated with the convulsions in four patients out of the series. In the remaining thirteen cases nothing of interest or importance could be elicited in regard to the previous history of the patient. The form of epilepsy most influenced by the venom is the so-called idiopathic or genuine epilepsy, for which there is no ascertainable cause. The patient may be subject to either the major, grand mal attacks, or the minor, petit mal, form may be the only evidence of the disease. In a number of Spangler's cases the grand mal type was replaced by the petit mal seizures before the intervals between the attacks were much lengthened.

The organic epilepsies, including those forms arising from traumatic lesions of the skull or brain, or those forms associated with focal organic disease of the brain, such as tumors, cannot be expected to yield to the venom treatment. Likewise, no influence on alcoholic epilepsy or epilepsy arising from uremic or eclamptic conditions can be looked for. While only three cures are reported by Spangler the general improvement in the patient's mental and physical condition was such as to lead him to urge the use of this remedy in these cases.

Wisconsin Medical Journal

August

117 *Ileocecal Adhesions. F. G. Connell, Oshkosh, Wis.
118 Cancer of Upper Rectum and Sigmoid Flexure. K. W. Doege, Marshfield, Wis.
119 Intraperitoneal Rupture of Urinary Bladder: Report of Case, Resulting from Automobile Injury. E. L. Mason, Eau Claire, Wis.
120 Relation of Physician to Animal Experimentation. W. Rittenhouse, Lake Geneva, Wis.
121 Traumatic Neuroses. A. W. Rogers, Oconomowoc, Wis.

117. Abstracted in THE JOURNAL, July 22, 1911, p. 314.

Laryngoscope, St. Louis

August

122 The Teaching of Oto-Laryngology in Under-Graduate and Post-graduate Medical Schools. S. M. Smith, Philadelphia.
123 Vasomotor Disturbances of the Upper Air Tract. C. W. Richardson, Washington, D. C.
124 Case Reports Illustrating Ocular Affections Due to Intranasal and Accessory Sinus Disease. L. A. Coffin, New York.
125 Primary Tuberculosis of the Nose. C. D. Van Wagenen, New York.
126 Two Cases of Tuberculosis of the Nose. W. B. Chamberlin, Cleveland.

St. Louis Medical Review

August

127 Man as Geologic Species in Western Hemisphere. A. S. Ashmead, New York.
128 Autumnal Fevers. G. B. Dorrell, Springfield, Mo.
129 Ovariotomy. D. D. DeNeen, Cincinnati.
130 Diet in Typhoid. D. W. Reed, Greeley, Colo.
131 Acute Primary Nephritis in Children. A. Ramberger, Chicago.
132 Relation of Alcohol to Hygiene. H. W. Knight, Rutland, Pa.
133 Balsams. J. Knott, Dublin, Ireland.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

August 26

1 Spa Treatment, with Special Reference to Moffat. D. Huskie.
2 *Tuberculin Dispensaries. W. C. Wilkinson.
3 *Bacteriology of Toothbrushes. H. Smale and D. W. Carmalt-Jones.
4 *Frenkel System of Exercises for Tabes. J. G. Garson.
5 Dental Disease from Standpoint of Physician. R. J. E Young.
6 Dentistry and the Public. C. Howkins.
7 Two Abnormalities of Dental Tissues. A. W. Wellings.
8 Pathology of Unerupted Teeth. J. G. Turner.
9 Dental Caries from Public Health Standpoint. J. Wheatley.
10 Infant Feeding. C. E. Wallis.
11 Bread Question. J. S. Wallace.
12 Abuse of Sweetmeats. A. Hopewell-Smith.

2. **Tuberculin Dispensaries.**—Evidence that proves the hollowness of these pretensions that stay in sanatoriums, combined with graduated exercises, can help the poor suffering from consumption is given by Wilkinson. He says that both rest and graduated exercise have long been employed in Germany in the treatment of consumption at sanatoriums, and the results of sanatorium treatment among the poor in Germany lend no encouragement to the view that sanatoriums can help the poor. Moeller, of the famous Belzig sanatorium near Berlin, claimed that sanatorium methods by themselves cure only 10.9 per cent. of the patients. Arranged according to stages the results were: Stage 1, sanatorium methods alone cured 31.8 per cent. Stage 2, sanatorium methods alone cured 1.9 per cent. According to Moeller's later experiences, sanatorium methods alone may effect a cure in 25.3 per cent. of the cases of pulmonary tuberculosis of Stage 1 (German Board of Health classification), while tuberculin has secured the same results in his hands in 84.6 per cent. Weicker, the devoted pioneer of the Volks-sanatoriums of Germany, found that of every 100 patients treated in sanatoriums by rational methods alone, including exercises, at the end of one to one

and one-half years, forty-one; at the end of two to two and one-half years, fifty-one; at the end of three to three and one-half years, sixty-five, and at the end of four years eighty had lost their fitness for work or were dead. The death-rate was as follows: In one to one and one-half years, 25 per cent.; in two to two and one-half years, 38.4 per cent.; in three to three and one-half years, 55 per cent.; in four years, 56.7 per cent. Wilkinson emphasizes further that the aspect of sanatorium treatment is not encouraging when we read that 7.6 per cent. of patients in Stage 1 are unfit to work or are dead in one to one and one-half years, 19 per cent. in two to two and one-half years, 33.3 per cent. in three to three and one-half years, and 55.6 per cent. in four years.

Wilkinson insists on tuberculin serodiagnosis and serotherapy in tuberculosis. He endorses the dictum of Koch that in Stage 1 tuberculin cures pulmonary tuberculosis with certainty and that the routine use of tuberculin in the second stage of pulmonary tuberculosis is the best means of preventing mixed infections in all forms of open pulmonary tuberculosis. He knows no contraindication to the use of tuberculin except despair. Within the last year he has treated at his tuberculin dispensary more than 100 patients with pulmonary tuberculosis in all stages, and apart from the cases of mixed infections, always in an advanced stage of the disease, he has been unable to find any limitation circumscribing the use and value of tuberculin. Wilkinson admits, however, that it is not wise, except with certain precautions, to use tuberculin in cases of well marked renal disease. Renal disease is in itself, sooner or later, fatal, and there is not much object in curing a tuberculous lesion when there already exists a disease which in itself is likely to be fatal. By a proper course of tuberculin treatment, it is almost the rule that cough and expectoration cease, so that the victims themselves cease to be a danger to their friends and relations.

3. **Bacteriology of Toothbrushes.**—It is claimed by Smale and Jones that a toothbrush becomes septic after once using, each hair becoming an inoculation needle, and the person using it may be vaccinated with such germs as flourish on it. The toothbrush, therefore, as popularly used, namely, for many months, may be the origin of pyorrhea alveolaris, which may lead to such grave consequences as anemia, gastritis or arthritis. The prevalent tooth powders and tooth pastes as usually used do not render the toothbrush aseptic, and even 1 in 20 carbolic acid is not effectual in so doing. The authors insist that all toothbrushes should be boiled for five minutes before and after use. A new toothbrush can be used each day. Those wishing for a more prolonged use of a toothbrush can rinse the brush in trikresol (1 per cent.) or allow it to stand between use in formalin (10 per cent.). Their remarks are based on extended experiments.

4. **Frenkel System of Exercises for Tabes.**—A case is reported by Garson as illustrating the beneficial effects which result from the systematic practice of the exercises designed by Frenkel of Heiden for restoring the power of coordinate movements in persons affected by tabes dorsalis. It shows how a person who has been reduced to a state of almost complete invalidism may by this means regain the power of locomotion so as to be able to live a comfortable and useful life.

Lancet, London

August 26

13 The Students' Number, Session 1911-1912.

Tropical Medicine and Hygiene, London

August 15

14 *Clinical Varieties of Undulant (Malta) Fever Met with in South Africa. A. Garrow.

15 *Pemphigus Contagiosus. R. H. Castor.

14. **Malta Fever in South Africa.**—This paper is founded on an experience with Malta fever extending over three years, during which time Garrow has been in practically daily contact with the disease or its sequelæ. He thinks that every case that one is likely to meet will find a place in one or other of the following groups: (1) *Acute type*—(a) malignant cases; (b) one-wave cases; (c) more than one-wave, or the undulant cases. (2) *Subacute type.* (3) *Chronic type.* (4) *Complicated*, including those cases which first come under observation on account of a complication or sequela of Malta fever, or during a concurrent illness. The clinical manifestations in a case of the chronic type are so entirely different from those found in one of the acute varieties that, but for the Widal test, Garrow says, it would be impossible to believe that both patients were suffering from the same disease. There is a connection, however, running throughout all the varieties, and the best conception of that is gained by remembering that the undulant type is what might be termed the central type. All the other types are but variations of it, depending on varying combinations of such factors as the quantity of the virus and the virulence of it, and the state of the defense forces of the patient. The undulatory type is characterized by intermittent waves or undulations of more or less remittent pyrexia of variable length and number, separated from one another by periods of variable length of temporary abatement or absence of symptoms. The acute one-wave type designates those cases characterized by simply one wave or undulation of varying length and severity, followed usually by a convalescence and recovery. The malignant type includes those acute cases characterized by great severity of symptoms and profound toxemia, and generally resulting in death. On the other side of the central type are the subacute and the chronic, in which, owing, perhaps, to a weakened virus, or a smaller quantity of it, or to more sluggish action of the defense forces of the body, the pyrexia is more or less subdued. The cases which go to form the complicated type are in the majority of cases subacute or chronic. Examples of each type are cited. Of the complicated type the following cases are mentioned: Pulmonary-pleural; hepatic; renal; nervous; simulating hip-joint disease.

15. **Pemphigus Contagiosus.**—Castor points out that pemphigus contagiosus is fairly common in Burma, contrary to the belief hitherto held. He recently came across six cases in one family. In three of these patients the eruption first appeared on the chin; in one it appeared on the forearm, in another it appeared on the abdomen, and in the infant on the forehead. The usual places, like the crotch, axilla, etc., were not attacked. The course the eruptions followed was the usual one. The sizes of the vesicles varied from a pea to about those covering the area of an inch. They did not affect the general health of the children. In one case there were only two vesicles, in another there were four. One case showed ten vesicles, and in the others there were several. The most diffused cases were in the children aged 10 months and 3 years, respectively, and in these two cases they gave rise to much discomfort and irritation. The cases lasted from one to three weeks. The treatment was cleanliness, frequent use of mercury lotion, and antiseptic powder dusting.

Annales de Gynécologie et d'Obstétrique, Paris

July, XXXVIII, No. 7, pp. 385-448

16 Tedious Labor from Lack of Synergy in the Contractions of the Uterus. (Un accouchement ennuyeux par manque de synergie dans la contraction utérine.) A. Herrgott.

17 *Influence on Nursling's Syphilis of Injection of Salvarsan in the Mother. (Le salvarsan injecté à une mère en période d'allaitement peut-il influencer la syphilis de son nourrisson?) E. Jeanselme.

18 When Does the Head Become Engaged in Vertex Presentation? (Nouveaux documents sur l'époque de l'engagement dans les présentations du sommet.) Audebert and Baux.

17. **Can Syphilis in the Infant be Influenced by Injecting the Nursing Mother with Salvarsan?**—Jeanselme reports seven cases in which salvarsan was administered to the nursing mother, and compares the outcome with seven other cases that have been reported by others. In only six cases were beneficial results evident, and in these cases the infants were not kept under observation long enough for a decisive judgment as to the value of the method. The salvarsan injected into the nursing mother sometimes induces evident retrogression of the superficial lesions of the nursling, but they generally soon recur and sometimes in a more pronounced form. The deep or visceral syphilitic lesions are not benefited and may even become fatally aggravated under the influence of the injection in the mother. Before applying this indirect method of treating the infant, the condition of the principal viscera should be investigated and it should not be applied if they are found much impaired. Inunction with mercury proved suc-

cessful in arresting the serious symptoms of inherited syphilis which had resisted the indirect method of salvarsan treatment in his cases.

Archives des Maladies du Cœur, etc., Paris

August, IV, No. 8, pp. 481-544

19 *Paralysis and Neuritis from Deficient Supply of Blood. (Paralysie et névrite d'origine ischémique.) R. Desplats and A. Baillet.
20 Digitalis. E. Robert-Tissot.
21 Case of Typhoid Bradycardia. Pierret and Darteville.

19. **Ischemic Paralysis and Neuritis.**—Desplats and Baillet present evidence to show that total or complete, durable or transient interference with the supply of blood to a peripheral nerve may entail serious functional disturbance and even degeneration of the nerve. When the ischemia is incomplete, as in Raynaud's disease, there may be paresis or paralysis without loss of electrical irritability. Complete ischemia is liable to entail neuritis, but if the circulation can be reestablished early the neuritis may rapidly retrogress before the nerve has become irremediably degenerated. If on the other hand the blood-supply is permanently shut off, degeneration of the nerve seems inevitable. Four cases of the various types are reported and compared with the few similar ones in the literature, especially with the fourteen cases of atrophy and paralysis following ligation of an artery, cited by Porta and Broca. The electric excitability of the nerve was not tested in these cases, but, taken in connection with the personal cases reported, they sustain the possibility of a paralysis, spreading out funnel-shaped, with degenerative neuritis, solely as the result of interference with the blood-supply. In the cases reported there had been no compression of the nerve sufficient to account for the disturbances. The theory of an ischemic origin for paralysis and neuritis in certain cases explains also those that follow severe chilling, as this interferes more or less with the circulation in the region.

Bulletin de l'Académie de Médecine, Paris

July 18, LXXV, No. 29, pp. 67-77

22 Spinal Anesthesia. (Rachianesthésie.) P. Reclus and E. Schwartz.

July 25, No. 30, pp. 78-108

23 *General Anesthesia with Part of Circulation Excluded. (De l'anesthésie générale avec circulation réduite ou exclusion des quatre membres dans l'anesthésie générale.) H. Delagénière.

23. **General Anesthesia with Part of Circulation Excluded.**—Delagénière has applied the method according to Klapp's technic in 1,144 cases, using chloroform, and in 35 with ether. An elastic band is applied to the upper part of each leg and arm, drawn tight enough to arrest both arterial and venous circulation. When the constriction is removed, the blood and tissues thus excluded from contact with the anesthetic, dilute and take it up rapidly. The patient rouses at once or in about ten minutes, and the postanesthetic disturbances are reduced in frequency and intensity. In case of accident, removing one or more of the bands flushes the system with fresh blood and starts up the respiration anew. The members feel a little numb or there may be minute ecchymoses, and postoperative phlebitis developed in four of his total 1,179 cases, but in three of these cases the operation had been for a gynecologic trouble and the edge of the inclined plane or the leg supports may have been responsible for this complication. Heart and vascular disease or general infections may contra-indicate the method in certain cases, but he asserts that it has special superior advantages in all cases of kidney and liver disease.

Lyon Chirurgical, Lyons

August, VI, No. 2, pp. 121-248

24 *Perforating Sigmoiditis. (Diverticulites sigmoïdiennes perforantes avec péritonite généralisée.) M. Patel.
25 *Experimental Grafts of Arteries. (Recherches expérimentales sur les greffes vasculaires.) E. Villard, L. Tavernier and E. Perrin.
26 *Conservative Treatment of Osteosarcoma. G. Tisserand.

24. **Perforation from Inflammation at the Sigmoid Flexure.**—Patel discusses the diffuse peritonitis from simple inflammation at the flexure causing perforation. He has compiled twenty-eight cases, all but eight being in men over 35. The trouble is traceable to a diverticulum in most cases, he thinks. The details of fourteen cases are given in which an operation was attempted and of fourteen without, all confirmed by necropsy. An early operation and modern methods of managing the peritonitis may yet succeed in saving patients, although to date he knows of no case of recovery.

25. **Experimental Grafts of Arteries.**—The experiences related show the factors to be especially heeded in surgery of blood vessels. The work was done on twelve dogs.

26. **Conservative Treatment of Osteosarcoma.**—In the two cases reported by Tisserand the treatment gave perfect functional results. The patients were girls of 13 and 20 and the growth was in the fibula in one and in the ulna close to the wrist in the other. He ascribes the fine outcome to the fact that he was able to leave intact the lower end of the ulna articulating with the wrist. A flap of periosteum was left when the segment of fibula was removed and the bone regenerated from this.

Presse Médicale, Paris

August 5, XIX, No. 62, pp. 641-648

27 *Salvarsan and the Auditory Nerve. (606 Ehrlich-Hata et troubles labyrinthiques.) E. Félix.
28 *Sudden Death in Scarlatinal Myocarditis. E. Weill and G. Mouriquand.

August 9, No. 63, pp. 649-656

29 Experimental Syphilitic Orchitis. (Production d'orchite syphilitique chez les lapins à l'aide de cultures pures de Treponema pallidum.) H. Noguchi.
30 *Relative Frequency of Symptomless Tuberculous Infection and Tuberculosis at Different Ages. A. Calmette, V. Grysez and R. Letulle.

27. **Salvarsan and the Internal Ear.**—Félix reviews forty-six articles that have appeared on syphilitic lesions of the auditory nerve with or without administration of salvarsan or any preparation of arsenic. Without deciding whether the salvarsan is or is not responsible for the disturbances in the labyrinth that have been observed after its use, he remarks that the data cited confirm the importance of careful examination of the ear before giving salvarsan and refraining from its use in case there is evidence to show that the organ of hearing and equilibration was impaired before the patient had contracted syphilis. The occupations which predispose to ear disturbances, such as boiler-making, and a history of an old internal ear disease, should positively exclude the patient from salvarsan treatment, and the greatest caution is necessary in employing salvarsan if the patient has been taking arsenic for some time in any form. He reports a personal case in which a young man became suddenly deaf, with tinnitus and vertigo, two weeks after an injection of salvarsan, the sixth week after contracting syphilis. It was learned that the young man for several years had been slightly deaf in one ear. In another case, years before salvarsan had been heard of, a patient developed deafness and tinnitus three weeks after infection with syphilis; Delsaux has reported a similar case one month after the primary sore; Rozier has reported a case in which the primary sore and the labyrinthitis developed almost simultaneously; Stümpke two with an interval of four and five months; Politzer reported in 1901 a case in which the interval was only a week, and Habermann in 1896 reported sixty-six cases of syphilitic labyrinthitis with intervals of only three to nine weeks between the primary sore and the internal ear trouble in sixteen. All of these cases preceded the discovery of salvarsan.

28. **Sudden Death from Scarlatinal Myocarditis.**—Weill and Mouriquand assert that myocarditis is the cause of sudden death in convalescents from scarlet fever much more frequently than is generally recognized, and cite a case in which a girl of 15, apparently recovered from a mild attack of scarlet fever, died suddenly while at stool. In another case an infant of 18 months had been in the diphtheria ward for a month on suspicion of diphtheria but with negative bacteriologic findings. Then a scarlatinal eruption developed and faded and the child was apparently doing well when it suddenly died. Necropsy revealed acute myocarditis, notwithstanding the total absence of myocarditic symptoms during life.

30. **Relative Frequency of Symptomless Tuberculous Infection and Tuberculosis at Different Ages.**—The tuberculin skin test was applied to 1,226 children at Lille and the children

were examined the fifth or sixth day thereafter, a control scarification without tuberculin having been made on each. A positive reaction was observed in 8.7 per cent. of the 273 children less than a year old; in 22.1 per cent. of the 145 between 1 and 2; in 53.8 per cent. of the 206 between 2 and 5; in 81.4 per cent. of the 366 between 5 and 15, and in 87.7 per cent. of the 236 over 15. And yet, notwithstanding the large number of children shown by the tuberculin test to be infected, only an average of 24 per cent. develop tuberculosis later; that is, this is the death-rate from tuberculosis in the town. All the others, fully 66 per cent., escape tuberculosis, the infection remaining permanently latent or occult, while the subjects are apparently healthy and succumb in time to entirely different diseases. Calmette concludes by emphasizing the necessity for distinguishing between the occult infection revealed merely by the tuberculin tests, and tuberculosis, "the disease characterized from the beginning by the follicular lesions resulting from the symbiotic existence of the tubercle bacillus with the cells of the different organs."

Semaine Médicale, Paris

August 2, XXXI, No. 31, pp. 361-372

31 *The Arcus Senilis or Crescentic Degeneration of the Cornea in the Aged. (Structure et pathogénie de l'arc sénile.) P. Marie and G. Laroche.

August 9, No. 32, pp. 373-384

32 *Geographical Distribution of Pneumonic Plague. (Les applications de la géographie médicale à l'étude de la peste pneumonique.) J. Guiart.

August 16, No. 33, pp. 385-396

33 Perithelioma an Illogical and Artificial Term. (Le périthéliome.) G. Roussy and P. Ameuille.

31. **Arcus Senilis.**—Marie and Laroche present evidence to prove that the greyish crescent is in reality a deposit of cholesterin. Research on the lipoids and cholesterin in different tissues and in the blood seems to promise to throw light on certain hitherto obscure points and suggest unsuspected connections between them, such as in the effect of epinephrin injected into animals which entails both atheroma and hypercholesterinemia.

32. **Medical Geography of the Plague.**—Guiart shows by historical review and five maps how pneumonic plague seems to be restricted to the region between the isothermal lines of 5 and 10 C. (41 and 50 F.), apparently being favored by cold; the epidemics to date have broken out in the winter. Europe, lower Canada, the upper Missouri and British Columbia are in the region involved. Bubonic plague on the other hand clings to the region between the isothermal lines of 20 and 25 C. (68 and 77 F.) and a certain amount of heat is necessary for its spread.

Archiv für Verdauunga-Krankheiten, Berlin

August, XVII, No. 4, pp. 395-510

34 *Estimation of Stomach Functioning. (Ueber die funktionelle Magenuntersuchung.) A. Galambos.

35 *Indirect Estimation of Amount of Stomach Content. (Modification de la méthode Mathieu-Rémond.) A. Laboulais and R. Goiffon.

36 *Idiopathic Enlargement of the Esophagus. (Speiseröhrenerweiterungen.) S. Mintz.

37 *Colitis from Mercurial Poisoning. (Experimentelle Beiträge zur Entstehung der Colitis mercurialis.) H. Coblinер.

38 Chronic Perisigmoiditis: Two Cases. M. Simmonds.

34. **Estimation of Gastric Functioning.**—The aim of Galambos' research was to compare the history of the case with the objective findings and with the findings with the test breakfast, striving to determine the differential value of the patient's story and the objective findings. He thus investigated eighty-six patients, giving 103 test breakfasts, and tabulates the findings under various headings. They show among other things that the various symptoms of something wrong in the stomach may be encountered in about the same ratio of cases with excessive, deficient or lacking gastric secretion and chronic gastritis; none is pathognomonic of any. He accepts, on the whole, Stiller's asthenia universalis, although the frequent exceptions to the rule may lead to erroneous conclusions. When the gastric secretion fluctuates irregularly from excess to deficiency, hysteria may be assumed, he declares, mentioning further that when blood is found in the stomach content in case of cancer, ulcer or erosion, the white leukocytes are generally numerous in it on account of the inflammatory conditions. If the proportions of red and white corpuscles are the same as in the circulating blood, then it is more probable that the bleeding has been caused by some injury from the stomach tube. He describes some cases to illustrate his points, urging that functional examination should never be omitted except in case of the well known contra-indications to the stomach tube, and especially not in nervous dyspepsia, on account of its suggestive action.

35. **Indirect Method of Estimating Amount of Stomach Content.**—Laboulais and Goiffon have modified the Mathieu method, as mentioned already in THE JOURNAL, April 2, 1910, page 1175. They use a titrated solution of sodium phosphate; after this is poured into the stomach and well mixed with its content by aspirating the fluid out and pouring it in again several times by raising and lowering the funnel, they withdraw some of the fluid and compare its concentration with that of the original, 1 to 1,000 phosphate solution. The method is more exact the smaller the amount of stomach content. After siphoning out a certain amount of stomach content, a given amount (q) of a solution of sodium phosphate of the concentration n is poured into the stomach and mixed with its contents. Some of the contents is then removed and its concentration estimated (n'), from which it is a simple matter to compute the amount of fluid in the stomach as it will equal n q — n' q divided by n'.

36. **Idiopathic Enlargement of the Esophagus.**—Mintz gives the radiographs of several puzzling cases of idiopathic dilatation of the esophagus, comparing them with the history of the case and stating that in nearly every case there is a spastic stricture at the cardia, either primary or secondary, and that all trouble subsides as a rule when this stricture is conquered. Sedatives internally to control the stricture never benefited in his experience, nor galvanization, and recurrence followed generally in the cases in which Hacker's method of "sounding without end" was applied. Permanent recovery was obtained by Mikulicz in five out of six cases in which he forcibly stretched the cardia with forceps introduced through an opening into the stomach, and others have obtained equally favorable results with this measure and Reisinger from resection of the dilated portion. Temporary relief can be obtained by repeatedly rinsing out the dilated esophagus. Mintz is inclined to believe that many cases of supposed diverticulum in the esophagus in reality were merely a general enlargement. The various means of differentiation to date are not reliable, he says, and the Roentgen pictures only when taken with instantaneous exposures.

37. **Mercurial Colitis.**—A man of 52 was ordered to take pills of bichlorid of mercury for two weeks after an operation for glaucoma, but he continued to take the pills for four months, the daily dose being thus 0.01 gm., or 0.15 grains. Ulcerative colitis developed with diarrhea and the patient succumbed the fifth month to the results of perforation of an abscess in the rectum. There had not been any marked subjective disturbances at any time, no stomatitis, and all the organs appeared intact except the large intestine. Coblinер reports experimental research on mercurial poisoning which seems to show that the mercury circulates in the blood in the form of the albuminate and is eliminated into the intestine. A toxic action is evident when mercury ions are liberated, and incorporation of large amounts of salt splits off the ions and thus increases the toxicity of the mercury. The elimination of the mercury into the intestine can be promoted by irritating substances and reduced by sedatives.

Berliner klinische Wochenschrift

August 21, XLVIII, No. 34, pp. 1541-1584

39 Histologic Study of Three Melanoblastomas. C. Kreibich.

40 *Criticism of Practical Importance of the Wassermann Reaction for Treatment of Syphilis, Especially the Later Manifestations. A. Pichn.

41 Differential Importance of Wassermann Reaction in Rhinology. O. Strandberg.

42 Experiences with Salvarsan in 1,900 Cases of Syphilis. F. Zimmern.

43 *Neurotropic Action and Elimination of Salvarsan. (Weitere Beiträge zur Neurotropie und Depotwirkung des Salvarsans.) W. Fischer and F. Zernick.

44 Quinin Derivatives in Experimental Trypanosome Infection. J. Morgenroth and L. Halberstaedter.

45 Experimental Research on Chemotherapy of Pneumococcus Infection. J. Morgenroth and R. Levy.
46 Artificial Immunization Against Trypanosomes. E. Teichmann and H. Braun.
47 *Proctoclysis with Sugar Solution in Treatment of Diabetic Acidosis. (Behandlung der Diabetessäurose mit Zuckerinfusionen.) R. Balint.
48 *Chondrotomy for Funnel Breast. (Zur chirurgischen Behandlung der angeborenen Trichterbrust.) L. Meyer.

40. **Wassermann Reaction Not a Guide for Treatment of Syphilis.**—In order to ascertain the diagnostic reliability of the Wassermann reaction, Plehn has had the serum of 200 patients at the Urban general hospital repeatedly examined with the five various technics for the complement-deviation test. The vials with the serum were only numbered and the serologist knew nothing of the patients yielding the serum, not even whether they had a history of syphilis or not or had taken treatment. The results confirm the possibility that syphilis may become permanently cured with no or very slight treatment. Among the forty-two giving a positive Wassermann reaction repeatedly, nine had reached an advanced age without ever having had any manifestations of their syphilis after the very first, which was also the case in fourteen others who had received what would be regarded as very inadequate treatment; some in this group gave a positive, others a negative reaction. Neisser has stated this year that the spontaneous recovery of syphilis is an extremely rare occurrence, but Naunyn has asserted that it generally dies out of itself in most cases, even without treatment—although he is the last one to rely on this—and the experiences related here by Plehn demonstrate that a clinical cure with little if any treatment occurs oftener than is generally recognized. This fact explains the positive reactions obtained in so many persons who are supposed to be entirely free from a history of syphilis. On the other hand, the Wassermann reaction may become negative while florid manifestations of syphilis persist or develop afterward. The fact that the reaction has become negative does not therefore signify that the patient is actually cured; neither is it always possible, even with the most energetic treatment, to transform a positive into a negative reaction or prevent tardy syphilis of the nervous system, especially the parasyphilitic affections with and without a positive reaction. Plehn adds that the Wassermann reaction gives no information as to the infectiousness of the case. The reaction may persist positive for decades while the patient is free from the slightest clinical symptom; thus a positive reaction is no proof of the syphilitic nature of clinical manifestations developing during this period, which may or may not be of a syphilitic nature. On the other hand, a negative reaction is no proof that they are not syphilitic. Plehn reiterates that the Wassermann reaction is only one symptom of syphilis, and, like other symptoms, it may be present or not, and it may be encountered in conditions other than syphilis, as with neoplasms and lead colic. Plehn also has had occasion to deplore the depression produced by knowledge of a positive reaction in persons clinically normal. One young man recently committed suicide on this account and necropsy failed to disclose the slightest trace of syphilis. A syphilitic with a negative reaction may yet speedily die of brain syphilis, while others with positive reactions may live to be 77 and over without symptoms. He does not dispute the value of the test in certain dubious conditions, but regards the interpretation of the test as a matter involving great responsibility.

43. **Neurotropic Action of Salvarsan and Its Elimination.**—Fischer and Zernick report a case of polyneuritis and one of neuroretinitis developing in syphilitic women after injection of salvarsan. They also tabulate the findings in regard to the elimination of arsenic after intramuscular, subcutaneous or intravenous injection of salvarsan, showing that the elimination may continue for seven to twelve months and also that even after intravenous injection there may be storage of the arsenic in internal organs. The arsenic may be circulating in the blood, even when no traces of it can be detected in the urine.

47. **Sugar Solution in Diabetic Acidosis.**—Balint gives the sugar solution by proctoclysis so that absorption may be promoted and long continued. As a still further aid in this line he restricted the amount of calories in the diet during the two days of the proctoclysis, not over 700 or 800 calories being allowed, which included the 100 or 150 gm. of sugar in the rectal infusion. In some cases the acidosis ceased entirely or became strikingly reduced, the more so the longer the proctoclysis was kept up. The tolerance of the patients was much increased in every case and the acetonuria materially diminished for some time. He theorizes to explain this, ascribing the better utilization of sugar from the rectum to its passage at once into the general circulation instead of its being obliged to go around by way of the portal vein.

48. **Chondrotomy for Congenital Funnel Breast.**—Meyer reports the application of Freund's operation to relieve the depression of the lower sternal region which was so pronounced that as the boy grew he had not room to breathe and operative measures became imperative at the age of 16. About 2.5 cm. was resected from the second and third costal cartilages on the right side and the chest at once expanded and the lad has had no further trouble since. Meyer thinks that this chondrotomy should be applied to all abnormal conditions in the chest wall or spine causing interference with normal breathing.

Deutsche medizinische Wochenschrift, Berlin

August 17, XXXVII, No. 33, pp. 1505-1544

49 Criticism of Prevailing Theories in Regard to Anaphylaxis, Allergy and Hypersusceptibility in General. (Ueberempfindlichkeit in der Pathologie des Menschen.) A. Menzer.
50 Case of Fatal Puerperal Osteomalacia. F. Speyer.
51 *Dangers of Gas Distention of Stomach with an Effervescing Mixture for Diagnostic Purposes. (Kohlensäure-Aufblähung des Magens zwecks Röntgenuntersuchung.) F. Nieden.
52 *Subcutaneous Rupture of Intestines or Bladder. (Darm- und Blasenrupturen.) E. Gottschalk.
53 *Appearance of Salvarsan in Milk. A. and A. Bornstein.
54 Internal Hemorrhagic Pachymeningitis in 11 Months' Infant. H. Hahn.
55 Question of Complete Cure of Syphilis by Salvarsan. (Zur Therapia sterilisans magna durch Salvarsan.) L. Geyer.
56 Technic for Salvarsan Infusion. (Zur Frage der Konzentration der NaCl-Lösung bei Salvarsaninfusionen.) Wechner.
57 Simplified Brandberger Apparatus for Determination of Albumin. (Neuer Apparat zur Brandbergschen Eiweissbestimmung nach Ameseder.) A. Diabac.

51. **Dangers of Inflating the Stomach with Effervescing Mixture.**—Nieden protests against the recent statements of Stiller and Hoffmann in regard to the harmlessness of this measure as an aid in Roentgen examination. He reports a case of severe gastric hemorrhage induced by the procedure and cites two reported by Bardachzi and three with fatal outcome by Behrend and another by Leo. For Roentgen work he commends barium sulphate as effectual for shadow photography; it has been used at the Bonn medical clinic in thousands of cases without ever causing appreciable by-effects. It is important, however, to write out the name in full, adding "for internal administration," as the substitution of barium sulphite, for the sulphate, ordered as "barium sulph," proved fatal in a recent case in Freiburg.

52. **Rupture of Intestines and Bladder from Contusions.**—Gottschalk remarks that the outcome is growing better in these accidents as the first aid is becoming more intelligent. The duodenum was the viscus ruptured in all but one of his last series of fifteen cases (since 1901). Only one patient succumbed of the three with subcutaneous intraperitoneal rupture of the bladder and one of the five with extraperitoneal rupture. One of these patients was a healthy woman of 41 and the rupture occurred in a fall while dancing, her partner falling on her abdomen and rupturing the full bladder. At the operation a pedunculated fibrosarcoma, the shape and size of a kidney, was found in the omentum. It was readily removed, the findings indicating that the neoplasm had been attached to the bladder and had been torn away by the accident, the weakened wall of the bladder rupturing at this point.

53. **Appearance of Salvarsan in Milk.**—Bornstein found arsenic in the milk of women who had been treated with salvarsan and the arsenic was in a form identical with or closely allied to the composition of salvarsan. Experiments with a syphilitic infant fed with the milk of a goat which had received an intravenous injection of salvarsan proved disappointing. The goat milk contained much smaller proportions of arsenic than the specimens of human milk that had been examined.

Medizinische Klinik, Berlin

July 23, VII, No. 30, pp. 1147-1186

58 Present Status of Cancer Research and Treatment. (Chemotherapie der bösartigen Geschwülste mit aromatischen Arsenverbindungen.) F. Blumenthal.
59 *Stratification of Food in the Stomach. (Schichtung der Speisen im Magen.) R. Kaufmann and R. Kienböck.
60 *Operative Treatment of Hemorrhoids. H. H. Dreesmann.
61 Epinephrin Enhances Action of Certain Local Anesthetics. (Das wirksame Prinzip der Nebennierenpräparate in Verbindung mit den Lokalanästhetica.) P. Esch.
62 *Ocular Tuberculosis. (Zur Kenntnis neuer Erscheinungsformen der Augentuberkulose.) E. Lubowski.
63 *Varicose Veins. (Ueber Krampfadern.) L. Stephan.
64 *The Hematocrite in Estimation of Effect of Iron in Anemia. (Untersuchungen mittels zentrifugierter Blutmessröhrchen Hämatokritmethode—über den Wert des Eisens bei der Behandlung der Blutarmut.) R. Schmincke.
65 Typhoid Complications. (Komplikationen im Verlauf von Typhus abdominalis.) F. Klewitz. Commenced in No. 29.
66 Bacterial Contamination of Meat. (Praktisches und Theoretisches zur Frage der bakteriellen Fleischvergiftung.) Aumann.

July 30, No. 31, pp. 1187-1222 and Supplement

67 *Specific Diagnosis of Tuberculosis. G. Jochmann.
68 *Operative Treatment of Nephritis. R. Lichtenstern.
69 *Treatment of Pneumococcus Meningitis. Kleinschmidt.
70 *Retention of Hydatidiform Mole. (Retention von Blasenmolen.) K. Mayer.
71 Therapeutic Importance of Alkaline Mineral Waters. (Therapeutische Bedeutung der erdigen Quellen.) E. H. Klsch.
72 *Autotreatment of Sciatica. (Selbstbehandlung der Ischias.) C. P. Dannehl.
73 Indian Arrow Poison Derived from Frogs' Skin Secretion. (Ueber ein Indianisches Pfeilgift nebst Versuchen mit einem aus der Haut von *Rana esculenta* gewonnenen Gift.) W. Caspari and A. Loewy.
74 Importance and Technic of the Wassermann Reaction in Syphilis. E. Sonntag.

59. **Stratification of Food in the Stomach.**—Kaufmann and Kienböck report study of this subject with the Roentgen rays on five healthy persons. The food spread out to form a sort of stratified shell, the food last eaten forming the kernel.

60. **Operative Treatment of Hemorrhoids.**—Dreesmann extols the advantages of two parallel incisions above and below the anus, leaving the latter intact. With a blunt instrument the skin is separated from the rectum and the hemorrhoids can thus be excised from without, leaving the mucosa intact. The incisions afford ample opportunity for inspection of the rectum and arresting hemorrhage. The details of the technic are shown in two illustrations as he has performed this operation on sixteen patients. The special advantages are that the wound being in a comparatively aseptic region rapidly heals by primary intention while there is no danger of stenosis later as the mucosa near the anus is not injured. For the same reason defecation is not painful.

62. **Tuberculosis of the Eyes.**—Lubowski expatiates on the necessity for a diagnostic injection of tuberculin for differentiation of dubious affections of the eyes, and describes several instances in which this alone cleared up the case. He deplores the dread among both patients and physicians of the tuberculin test; without it the patient is liable to drift from one physician to another, each diagnosing differently the eye trouble. It is important, he adds, to learn the numerous forms under which a tuberculous process may develop in the eye, and new cases should be described at length, so physicians may become familiar with them. Uveitis and scleritis are of tuberculous origin in the overwhelming majority of cases, and the tuberculous process may also manifest itself as an obstruction in the central artery of the retina with plastic iritis or neuroretinitis with central scotoma. He relates a case of the kind with complete recovery under tuberculin treatment. Probably the process developed behind the eyeball in the central canal of the optic nerve, and as it subsided under the tuberculin treatment functioning was restored without even any atrophic blanching of the optic nerve. In another case with hemorrhages in the vitreous body and obstruction of the central artery of the retina, the disturbances likewise all retrogressed completely under tuberculin treatment. The remarkably favorable outcome of the tuberculous thrombophlebitis is in striking contrast to the tendency to atrophy of the optic nerve left after traumatic lesions of the kind.

63. **Varicose Veins.**—Stephan has devised an elastic stocking which seems, he states, to control the circulation in the veins like the natural valves. The stocking is of linen with lengthwise strips of round wicking; it is laced only tight enough to compress the enlarged, not the normal veins. The intermittent compression thus exerted by the strips of soft wicking simulates the natural action of the valves.

64. **The Hematocrite in Estimation of Effect of Iron in Anemia.**—Schmincke measures the height of the mass of blood corpuscles in the graduated tube after centrifuging as a means of controlling the effect of treatment in anemic conditions.

67. **Specific Diagnosis of Tuberculosis.**—Jochmann urges that general practitioners should familiarize themselves with the tuberculin tests as their diagnostic importance cannot be overestimated, especially for early detection of tuberculosis. The special technic to be used depends on the circumstances of the case.

68. **Operative Treatment of Nephritis.**—Lichtenstern reports his experiences in this line, all justifying the conclusion that true Bright's disease is not amenable to surgical treatment but that operative measures are indicated for recurring rebellious unilateral renal hematuria, colics and anuria when they are the result of inflammatory processes. Recurring hemorrhage may be arrested by mere decapsulation and anuria by unilateral nephrotomy.

69. **Pneumococcus Meningitis.**—Kleinschmidt has encountered a number of cases of meningitis complicating pneumonia in the last six years, all fatal. Matthes reported four similar cases in 1908 except that there had been no pneumonia in three of them. Kleinschmidt here reports a case of pneumococcus meningitis following an infectious sore throat, the patient, a young merchant, recovering. Hexamethylenamin and pneumococcus serum had been administered, supplemented by lumbar puncture. Kleinschmidt thinks that this case suggests the advantage of giving hexamethylenamin in prophylaxis in epidemic meningitis, and also in croupous pneumonia, otitis media and injuries of the skull. Liebermeister has recently called attention to the frequent suppurative inflammation of the meninges found at necropsy after pneumonia, even when there had been no meningitic symptoms during life.

70. **Retention of Hydatidiform Mole.**—Mayer reports ten cases of this kind. In only one was the uterus very much enlarged; in the others the size corresponded to the period of the assumed pregnancy. In five cases there were atypical hemorrhages and blood-stained discharges; in two, small, tumor-like indurations in the uterus wall were palpable until after evacuation of the mole. The pathologic product had evidently been arrested in its growth but was not expelled and, although not causing special pathognomonic symptoms, it was seriously impairing the general health until it was mechanically removed the fourth or fifth month.

72. **Self-Treatment of Sciatica.**—Dannehl has the patient sit in a hot bath with the foot braced against the end wall of the tub, which he grasps above with both hands and pulls his trunk forward and over, thus stretching the nerve in the hip as he repeats the procedure. It is supplemented by light massage of the nerve trunk. The relaxation in the hot water facilitates both the stretching and the massage, and the patient's sensations are the best guide as to the intensity and duration of the procedures. They take thirty or forty minutes in all, and the water should be kept at about the same temperature, 38 C. (100.4 F.). At the close, cooler water may be poured over the body, avoiding the affected limb. The sound leg should not be braced. These baths should be taken every day or second day for months if necessary, supplemented by general hygienic measures. Dannehl has thus cured himself, by this means, of sciatica which had proved refractory for three years to all other measures, and the cure has been complete during the two years since.

Münchener medizinische Wochenschrift

August 8, LVIII, No. 32, pp. 1705-1752

75 *Research on Beginning of Labor. (Experimentell-biologische Untersuchungen über den Geburtseintritt.) A. von der Heide.
76 *Diagnosis of Spasmophilia in Children: The Peroneal Phenomenon. F. Lust.
77 Phlorin Glycosuria, a New Form of Artificial Diabetes. M. Cremer.
78 Anaphylactic Phenomena in the Cornea. (Ueber anaphylaktische Erscheinungen an der Hornhaut.) K. Wessely.
79 Organ Specificity of Uvea Albumin. (Uvealweiss.) W. Weichardt and R. Kümmell.

80 *Experimental Production of Congenital Deformities of the Eyes. H. E. Pagenstecher.
81 Colorimetric Determination of Milk-Sugar in Urine and Milk. W. Autenrieth and A. Funk.
82 *Fate of Tuberculous Individuals Treated in Sanatoria. (Das spätere Schicksal der in Heilstätten behandelten Lungenschwindsüchtigen.) F. Reiche.
83 *Anilin Poisoning. R. Tresp.
84 Acid or Alkaline Intravenous Salvarsan Injection. B. Spiethoff.
85 Late Syphilitic Symptoms Appearing in Early Stages of Syphilis After Salvarsan Injection. Wehner.
86 Technic of Codivilla's Nail Extension. A. Weber.
87 Langemak's Bandage and Temperature Regulation of the Body. P. Schuster.
88 *Peptic Ulcer in Stomach, Esophagus and Duodenum. G. B. Gruber. Commenced in No. 31.

75. **Labor an Anaphylactic Process.**—Sauerbruch and Heyde recently reported experiments with a gravid and non-gravid rat sutured together in parabiosis. The gravidity did not seem to be affected and both animals apparently throve until, a few hours before the gravid animal cast its young, the other suddenly developed serious symptoms, apathy or tetanic cramps or spasms resembling those of uremia. These experiments suggested that the fetal serum had acquired toxic properties which induced the disturbance resulting in expulsion of the contents of the uterus, and recent experiences here reported by von der Heide apparently confirm this assumption. Immediately after birth of a child and severing the cord the reserve placental blood from it was set aside to clot. He then injected 17.5 c.c. of this fetal serum in a young woman supposed to be at term and labor commenced in three hours. A similar result followed in three other women at or approaching term, and then in six cases in which labor had commenced but the labor pains had stopped, he injected 5 or 10 c.c. and labor started up again in a few minutes to one or two hours. One of these patients was a primipara of 30 and the period of dilatation had extended over days without labor pains, but they commenced two and a half hours after injection of 4 c.c. of the fetal serum and kept up for four hours, then ceased until the next day when they recommenced, with speedy delivery. He reports in all twenty-six pregnant women thus treated with fetal serum, the results demonstrating, he states, that not only is labor to be regarded as an anaphylactic phenomenon, due to the action of the alien albumin in the fetal serum, but that fetal serum is an effectual means to promote the contractions of the uterus in case of inefficient labor pains, either primary or secondary. He adds that injection of gradually increasing amounts of the fetal serum—on the principle of tuberculin treatment—might habituate the woman to the alien albumin so that anaphylaxis would not develop and she might carry the child over term. Injection of the fetal serum into non-pregnant women was not followed by any appreciable phenomena, seeming entirely inert.

76. **The Peroneal Nerve Phenomenon.**—Hyperexcitability of the peroneal (external popliteal) nerve was found constantly by Lust in the seventy-six children with spasmophilia examined, while the facialis phenomenon occurred only in 43.4 per cent. of the children although they all presented unmistakable signs of tetany. Holding the child's leg in his left hand he taps with a percussion hammer the external popliteal nerve near or just below the head of the fibula; if the nerve is unduly excitable, this induces transient abduction with dorsal flexion of the foot.

80. **Experimental Production of Malformations of the Eyes and Cataract.**—Pagenstecher fed gravid rabbits and guinea-pigs with naphthalin and there were malformations in the eyes in 50 per cent. of the rabbits in the following litters and in 33 per cent. of the guinea-pigs. The malformations included numbers of congenital cataracts. This experimental research proves the possibility of a toxic origin for cataract and that malformations are not necessarily due to an anomaly in the germ.

82. **After-History of Tuberculous Patients Treated in Sanatoriums.**—The statistics given in this article were cited recently in the Berlin Letter in THE JOURNAL, September 9, page 911. It rarely occurs that nearly three thousand patients can thus be kept under observation for so many years, while the conclusions are valuable as the material is so uniform, the patients all belonging to the wage-earning classes. It is certainly encouraging, Reiche remarks, to find that over 54 per cent. of the men and over 64 per cent. of the women given sanatorium treatment from seventeen to five years ago have regained full earning capacity, even although one-fifth required for this a second course and one-thirteenth a third. The data confirm the tendency of pulmonary tuberculosis to a long protracted course, long periods of latency and retrogressions.

83. **Anilin Poisoning.**—The patients were two boys one of whom had applied commercial anilin copiously to his hands in treatment of ulcerated chilblains; the other boy felt its toxic action only by inhalation as the two slept together in a defectively ventilated room. The anilin did not seem to have an inflammatory action on the tissues and the chilblains healed under it, but the general symptoms were severe and there was a bluish gray discoloration of the nails, gums, etc. Both boys were found unconscious but the one who had only inhaled the anilin had recovered the next morning, while the other was still too weak to stand by the ninth day, but then gradually recuperated.

88. **Peptic Ulceration in Esophagus, Stomach and Duodenum.**—Gruber tabulates the details of 170 cases of peptic ulceration or erosions found at 4,208 necropsies; 4 per cent. of the cadavers that reach the dissecting room at Munich thus have signs of peptic ulceration. In only eighteen of the 115 cases of actual ulcers had the affection been diagnosed during life. In fully 61 per cent. of the total 170 cases of peptic lesions morbid changes were found in the heart or vessels. The number of cases in all the various age decades ranged from sixteen to thirty-three except the small number of four between the ages of 10 and 20 and of seven between 80 and 90. Seventeen were in children under 10. In 14 per cent. of the cases the death was due to perforation and in 6 per cent. to hemorrhage from the lesion. Cancer was evident in 139 of the cases, but a connection with a preceding peptic erosion or ulcer was traceable in only 5.2 per cent. Gruber further tabulates all similar statistics that he has found on record in various countries; according to them peptic lesions were found in from 0.1 to 8.32 per cent. of the total necropsies. The higher figures are all from before 1880. No difference between the sexes is apparent from the tables, while the causal influence of cardiovascular disease seems evident. He urges all pathologic anatomists to seek for peptic ulcerations, erosions or scars at all necropsies as important general laws may possibly be learned from comparison of such data.

Therapeutische Monatshefte, Berlin

August, XXV, No. 8, pp. 465-524

89 *Tuberculin Treatment in General Practice. F. Meyer.
90 *Reply to Professor Heubner's "Warning Against Maretin." H. Dreser.
91 *Reply to Above. W. Heubner.
92 Diuretic Action of Amino-Acids. K. Glaessner.
93 *Treatment of Fracture of Upper Arm in Infants. (Zur Therapie des Oberarmbruchs im Säuglingsalter.) F. Göppert.
94 Vaccine Therapy in North America. C. T. Noeggerath.
95 *Fatal Naphthalin Poisoning. S. Prochownik.

89. **Tuberculin Treatment in General Practice.**—Meyer warns that tuberculin treatment may do harm if the dosage is too small as well as when the dosage is too large. It should be regarded as only one factor in treatment of tuberculosis, but is especially indicated for pronounced toxic symptoms such as palpitation of the heart, sweats, gastric disturbances, swelling of the thyroid and slight subfebrile temperature, also in extensive glandular and in open bone affections, combined with surgical measures. Hysteric patients do not take tuberculin treatment at all well, and it is contra-indicated when there is much fever, or pulmonary tuberculosis is rapidly progressive and complicated by mixed infection, epilepsy, severe neurasthenia or heart disease.

90 and 91. **Heubner's Warning Against Maretin.**—As Dreser's pharmacologic research was the basis for the production of maretin, he takes exception to Heubner's warning in regard to its toxic effect on the blood (given in full in THE JOURNAL, July 15, 1911, page 256). Dreser rejoins that phenacetin from this hypercritical point of view is also a poison for the blood, Krönig having reported in 1895 a case of fatal changes in the blood after a dose of 1 gm. (15 grains) of phenacetin, and yet no one hesitates to use phenacetin on this account.

Heubner replies to his statements in detail, saying in regard to phenacetin that the number of known cases of injury of the blood from it is negligibly small during the twenty-five years it has been in use in comparison with the number of cases of injury from maretin soon after its introduction. He reiterates that the continued use of maretin is liable to induce anemia even in the ordinary doses, and as an antipyretic action can be obtained with more harmless drugs, there is no reason for its use, certainly not over long periods.

93. **Treatment of Fracture of the Upper Arm in Infants.**—The usual splints used for this purpose hamper the movements of the thorax walls, and Göppert recommends a wire frame of triangular shape, padded at the angles, which fit into the axilla and elbow of the child and hold the arm away from the chest.

95. **Fatal Naphthalin Poisoning.**—The naphthalin had been ordered to expel thread-worms, and was given in ten powders of 0.25 gm. (about 4 grains) each, four a day for two days and then followed with castor oil. The child, a boy of 6, died with symptoms of naphthalin poisoning the third day, after having taken 1.75 gm. in all in two days. Lewin has also reported a fatality from this cause. It is possible that the castor oil dissolved the drug and thus an unusually large amount was absorbed.

Therapie der Gegenwart, Berlin

August, LII, No. 8, pp. 337-384

96 *Rhizotomy for Tabetic Gastric Crises. (Operative Behandlung gastrischer Krisen durch Resektion hinterer Dorsalwurzeln.) O. Foerster.
97 *Vegetables Rich in Inulin in Diet for Diabetics. H. Strauss.
98 *Kuhn's Suction Mask in General Practice. (Ueber die Lungensaugmaske aus der Praxis.) P. Seebens.
99 *Diatheses in Children. (Ueber kombinierte Krankheitsbereitschaften oder Diathesen im Kindesalter.) M. Pfaundler. Commenced in No. 7.

96. **Rhizotomy for Tabetic Gastric Crises.**—Foerster reviews his experience with resection of the posterior spinal nerve roots in cases of tabes with gastric crises of such extreme intensity that the inanition and morphin poisoning were driving the patient into the grave and all other measures had failed to relieve. Only under these conditions does he consider operative treatment. The aim is to resect the sensory gastro-intestinal fibers of the sympathetic nerve, and this may require resection of the roots from the twelfth to the fifth dorsal or even higher; the few failures in the twenty-eight cases on record to date were undoubtedly due to the fact that too few roots were resected. It may be possible to determine beforehand, he says, exactly the roots requiring resection by careful study of the location of the pains and localization of the superficial hyperesthetic zones. Guleke found in one case that the crises recurred after resection of the seventh to the ninth roots but then vanished permanently when the tenth and eleventh roots were further resected. There is always a possibility that the crises may be due to the vagus or to direct irritation of the vomiting center in the medulla oblongata, in which case rhizotomy of course would not relieve. There have been only three deaths from the intervention although the patients were all extremely debilitated and their resisting powers at a low ebb from morphin addiction. Paraplegia of the legs, paralysis of the bladder with cystitis, and pains in the legs have followed the operation in a few instances, but proved transient except in Nonne's case in which the paraplegia of the legs seems to be permanent. These troubles are probably the result of operative injury of the spinal cord or of leakage of blood into the dural sac below or possibly of the draining away of the spinal fluid from the dural sac during the operation and afterward if the pelvis is raised. If the blood-supply of the spinal cord is interfered with, paralysis may likewise result. Another transient symptom is a certain atony of the abdominal walls with more or less meteorism. Many of the patients have been restored to comparative health and enabled to return to business.

97. **Advantages of Vegetables Rich in Inulin in Diabetes.**—Strauss has given with much benefit pure inulin in two cases of diabetes, and urges the addition of vegetables rich in inulin to the diet of diabetics, especially artichokes, dandelion, the black roots of viper's grass, an edible species of *Scorzonera*, and *Helianthus macrophyllus*, of the sunflower family, all of which will repay cultivation and, as a source of inulin, prove useful in antidiabetes diets. The absorption of the inulin proceeds naturally more slowly from the ingested vegetables than when it is given isolated, which is a distinct advantage.

98. **The Suction Mask in General Practice.**—Seebens states that Kuhn calls the mask by this name as it sucks up the diaphragm by restricting the intake of air while it allows expiration to proceed unhindered. During inspiration the diaphragm, the blood and the lymph are all sucked up into the thorax, the main effect of the mask being to induce hyperemia in the organs in the chest. By sucking the blood into the chest it reduces the blood-pressure in the brain and is thus useful in insomnia while the hyperemia in the lungs has a curative influence on lung and heart disease and in all forms of anemia, as also in bronchial asthma, emphysema and bronchitis, and, by its influence on sleeplessness, in neurasthenia. Seebens has applied the mask in thirty cases of various affections and with benefit in all, no by-effects being observed in any instance. He urges general practitioners to familiarize themselves with the advantages of this inexpensive and harmless method, warning that charlatans will soon be taking it up if the profession neglects it. (The principles involved were described in THE JOURNAL, Oct. 15, 1910, page 1421). Some fear that the mask may induce hemoptysis but Senator commends it directly for hemoptysis and Kuhn has never had hemorrhage from the lungs in all his experience with the mask.

99. **Diatheses in Children.**—Pfaundler regards the neuro-lymphatic tendency, the exudative diathesis, as the soil on which "scrofula" develops, and lays great stress on preventive hygiene, a climate which permits constant out-of-door life, companionship with children of the same age, and a diet which excludes more or less completely all animal food, especially milk, cream, butter and eggs, and also sugar. He has often found it possible to cure anorexia by forcing food on the child, giving it by spoonfuls, coaxing, threatening and rewarding the child for eating for a time and then suddenly ceasing this and leaving the child alone. He will not care for food at first but finally clamors for it. Or a meal may be skipped entirely, or the child kept waiting long at table before it is served, on one pretext or another, until it becomes extremely impatient for its food which it then eats with appetite. Children often refuse to eat vegetables, as they prefer other foods, but when milk and other animal food is denied them, they are forced to fall back on the vegetables which they soon take with relish if palatably prepared. The practitioner who instils these hygienic principles may be called a "turnip doctor," and parents may be dissatisfied with his directions, the public still having the medieval conception that drugging is all there is to therapeutics, but the physician must not swerve from his convictions, and the final outcome of the case will be his reward.

Wiener klinische Wochenschrift

August 10, XXIV, No. 32, pp. 1147-1178

100 *Auto-Intoxication with Acids in Human Pathology. O. Porges.
101 *Rhizotomy. (Foerster's Operation.) G. Stieler.
102 Sterilization with Ultraviolet Light. E. Glaser.
103 Research on Immunity. J. Cecikas.

August 17, No. 33, pp. 1179-1206

104 *Physical Symptoms of Mitral Insufficiency. L. Kürt.
105 Technic for Bacteriologic Diagnosis of Cholera. A. Welaskopf.
106 *Optic Neuritis with Exanthematous Typhus. V. Arnold.

100. **Auto-Intoxication with Acids.**—Porges is assistant at von Noorden's clinic at Vienna, where the subject of acid auto-intoxication has been especially studied. He reviews the various forms of intoxication and the various acids involved, as well as the various factors responsible for the accumulation of acid. The latter may include a deficiency of alkalies or insufficiency of the organs whose task is to eliminate the acid, as well as over-accumulation of the acid. Acidosis is a more common occurrence than has been hitherto recognized, he declares, and it has one pathognomonic sign, namely, increased functioning of the lungs, hyperpnea, the lungs drawing in more breath at each inhalation or the respiration becoming more frequent. Recent research has shown

that the respiration is controlled by the acidity of the blood, the respiration center being peculiarly sensitive to acids. It is probable, he declares further, that the respiration is a means of regulating the acidity of the blood; the lungs by eliminating carbonic acid thus strive to maintain the balance of acidity by throwing off the excess of acid in this way. The increased respiration is thus a sign that the organism is striving to compensate commencing acid intoxication by throwing off increased amounts of carbonic acid. The hyperpnea has the further consequence that the tension of carbonic acid in the blood declines, and this, too, may prove useful in early detection of acidosis. The abstract research recorded thus permits greater certainty in our therapeutic measures. When the physician is confronted with a patient in coma and there are no anamnesic data, and nothing to explain the coma can be discovered on examination of the patient, the presence of hyperpnea discloses that the coma is due to acid intoxication, and hence that alkalies are indicated. On the other hand, the lack of excessive functioning on the part of the lungs may serve to exclude diabetic coma and coma from any acidosis. Meat and other protein foods do not induce acid intoxication but they contribute to acidosis and hence should be restricted when there are other causes suggesting the possibility of impending acidosis, as in certain forms of nephritis and in diabetes. The favorable action of this has long been confirmed by experience and the research reported explains its mechanism from another standpoint. The findings from the research enable us also to refrain from inflicting unnecessary dietetic restrictions on our patients, as the organism has means at its disposal under ordinary conditions to render harmless the acid elements of meat.

101. **Rhizotomy.**—Stiefler reports a case of severe spastic paralysis in a boy of 12 in which he resected the posterior spinal roots according to Foerster's technic with excellent results. It is the forty-first case on record, he says, in which this technic has been applied in Little's disease and successfully in thirty-one; no benefit was apparent in five cases and four of the patients succumbed, one in an epileptic seizure, another from postoperative pneumonia and another from an iodin dermatitis. In the present case the patient is now able to sit erect and walk with the aid of a walking stool. He reports further a case of intolerable gastric crises in a tabetic man of 49 on whom the same operation was performed, adding that in the twenty-six similar cases on record a cure was realized in twelve cases. Great benefit was also apparent in this case, the gastric crises not recurring and the general health showing marked progressive improvement, but the patient died suddenly the seventh day. Necropsy indicated that the fatality was the result of bulbar paralysis and that the operation need not be incriminated, the tabetic lesions in the medulla oblongata amply sufficing to explain the sudden death.

104. **The Symptomatology of Mitral Insufficiency.**—Kürt writes from von Neusser's clinic at Vienna to discuss the physical signs and symptoms of mitral insufficiency at different ages and different stages of the disease and the explanation of their mechanism. He warns that accidental murmurs may be observed in early childhood and lead to much diagnostic confusion. Organic systolic murmurs in children are liable to be more pronounced in the dorsal decubitus. In adults he has found the systolic murmur over the apex more pronounced with the patient lying on the left side. To date he knows of no decisive means of differentiating organic from accidental murmurs. Some instances are cited to show the advantages of indirect palpation in certain dubious cases, and the diagnostic importance of an unusually pronounced pulsation in the chest wall outside of the apex, indicating that the left ventricle is lying closer to the wall than normal and over a larger area, although there may be nothing else to indicate that it is enlarged.

106. **Optic Neuritis with Exanthematous Typhus.**—Arnold states that since he has made a practice of examining the eyes of patients with spotted fever he has found traces of optic neuritis quite common. It was pronounced in eight and mild in two among his fourteen patients with this disease, but none complained of visual disturbances. The neuritis persisted longer than any other symptom but finally retrogressed completely in nearly all, but in a few there are signs of incipient atrophy of the nerve. He adds that he has encountered optic neuritis in no other infectious disease except meningitis, in which he has invariably found it or witnessed its development. He has never found it in typhoid fever and Groenouw was able to find only twenty cases in the literature of optic neuritis in typhoid fever. The discovery of an optic neuritis may therefore turn the scale in favor of exanthematous typhus in dubious cases.

Zentralblatt für Chirurgie, Leipsic

July 22, XXXVIII, No. 29, pp. 985-1016

107 *The "Two-Route Method" of Treating Local Lesions. (Die Pfannenstill'sche Methode in der Chirurgie.) A. v. Reuterskiöld.

108 *Surgical Treatment of Tabes Dorsalis. H. Schlüssler

109 Resection of Ulna and Radius in Treatment of Contracture After Inflammation of Tendon Sheaths in the Hand. (Zur Behandlung schwerer Hand- und Fingerkontrakturen nach Sehnenscheidenentzündung.) R. Mühsam.

July 29, No. 30, pp. 1017-1048

110 Differential Atmospheric Pressure in Prevention of Aspiration of Air After Injury of Veins. (Zur Verhütung der Luftaspiration bei Venenverletzungen.) M. Tiegel.

111 Camphorated Oil in Prophylaxis of Peritonitis and Adhesions. (Anwendung des einprozentigen Kampferöls bei Peritonitis und die adhäsionshemmende Wirkung desselben.) G. Hirschel.

112 Technic for Correction of Cleft Palate. (Ueber die Operation der Hasenscharte und des prominenten Zwischenkiefers.) L. Kredel.

August 5, No. 31, pp. 1049-1080

113 Indirect Production of Pain at McBurney's Point. (Zu der Frage der Bedeutung des Rovsing'schen Symptoms.) C. Lauenstein.

114 Leverage Extension in Treatment of Fractures. (Hebelextension.) C. Deutschländer.

107. **The Two-Route Method of Treating Local Lesions.**—Reuterskiöld reports favorable experiences with Pfannenstill's method of acting on lesions by two routes: potassium iodid taken internally and ozone or hydrogen dioxid applied externally. (It was described in THE JOURNAL, July 16, 1910, p. 264.) About 3 gm. of potassium iodid are taken during the day and the lesion is kept moistened with hydrogen dioxid. Reuterskiöld has found it convenient to use two vials connected with a wick, the upper vial containing the hydrogen dioxid which drains away into the lower vial through the wick, the wick being bent in the middle and this fold being introduced into the depths of the lesion. The solution should give an acid reaction and for this he adds 0.25 to 1 per cent. acetic acid, using a 3 to 1 per cent. concentration of hydrogen dioxid.

108. **Operative Treatment of Tabes.**—Schlüssler states that in sixty cases of lumbar tabes he has exposed the sciatic nerve and found it invariably in a focus of perineuritis. This alone is sufficient to explain the pains in lumbar tabes; both the gastric crises and visceral symptoms may be regarded as reflex neuroses, originating in the nervi nervorum of the inflamed neurilemma. The disturbances are generally the result of adhesions, and by slitting the neurilemma and releasing the nerve from the adhesions the pains are arrested. When the left forefinger is worked under the nerve and lifts it, the adhesions can be heard tearing. Six weeks of after-treatment should follow this neurolysis procedure. One man of 40 with severe tabetic crises and symptoms has been free from pain since it was applied in 1910.

Zentralblatt für Gynäkologie, Leipsic

July 22, XXXV, No. 29, pp. 1041-1080

115 Prophylaxis of Puerperal Fever and Self-Infection. (Semmelweis und die Selbstinfektion.) F. Ahlfeld. (Spontaninfektion.) L. Aschoff.

116 Ossification in Laparotomy Scar. (Knochenbildung in der Laparotomienarbe.) W. Hannes.

117 Cleft in Trunk from Shoulder to Umbilicus. (Seltene Form von Rumpfspalte.) A. Gutmann.

July 29, No. 30, pp. 1081-1112

118 No Premonitory Symptoms of Thrombosis or Embolism. (Kennen wir präemonitorische Symptome bei Thrombose oder Embolie?) H. Künster.

119 *Syphilitic Meningitis Following Spinal Anesthesia. (Meningitis luetica, ausgelöst durch Lumbalanästhesie.) G. Linzenmeier.

120 *Technic for Excision of Corpus Uteri in Tuberculous Pregnant Women. (Indikation und Technik der Korpusexzision bei tuberkulösen Schwangeren.) H. v. Bardeleben.

121 Formation of Corpus Luteum. J. W. Miller.

August 5, No. 31, pp. 1113-1154

122 Improved Management of Umbilical Cord. (Methode, die Nabelabklemmung mit der Unterbindung zu kombinieren.) B. H. Jägerroos.

119. **Meningitis Following Spinal Anesthesia.**—A supposedly healthy woman developed symptoms of meningitis after spinal anesthesia. The Wassermann reaction proved positive and under salvarsan the symptoms promptly subsided. Linzenmeier remarks that the experience suggests special caution with spinal anesthesia on suspicion of syphilis, and also the necessity for tentative specific treatment if symptoms of meningitis follow the anesthesia and persist.

120. **Resection of Corpus Uteri in Tuberculous Pregnant Women.**—Bardeleben has been shocked at the high mortality in tuberculous women who become pregnant even when abortion is induced, 25 and 58.3 per cent. of his fifty patients in the first and second stages of pulmonary tuberculosis dying in less than sixteen months after the abortion. After trials of various supplementary operations, he reports favorable results after systematic excision of the corpus to supplement the abortion. The mortality has dropped to 5.6 per cent. with this technic, which he describes in detail with illustrations. In forty cases, the women less than four months pregnant, he operated by the vaginal route and in the eight others by the abdominal. The operation required only twenty to thirty-five minutes; hemorrhage was slight. Enough functioning corpus tissue is left to prevent disturbances later, while the site of the placenta is removed and the stumps of the adnexa are ligated outside the peritoneum. None of the patients died within sixteen months of the pregnancy and menstruation is not interfered with except that the menstrual hemorrhages are less copious. The operation aims to free the woman of the last trace of her gestation while preventing further conception.

Zentralblatt für innere Medizin, Leipsic

July 22, XXXII, No. 29, pp. 713-736

123 *Percussion in the Bath. G. Hauffe.

July 29, No. 30, pp. 737-760

124 Certain Features of Congenital Heart Defects: Two Cases. (Einige Beobachtungen bei zwei Fällen von angeborenem Herzfehler.) O. Roth.

123. **Percussion in the Bath.**—In order to facilitate percussion, Hauffe has the tub raised so that its walls are level with a stretcher and the physician does not have to bend over much. Both lungs and heart findings are far more pronounced and instructive, he asserts, with the patient lying relaxed in a full bath.

Gazzetta degli Ospedali e delle Cliniche, Milan

July 18, XXXII, No. 86, pp. 907-914

125 *Treatment of Hemorrhoids. G. Baroni.

July 20, No. 87, pp. 915-922

126 Painful Enlargement of Glands in Vicinity of Herpes Zoster. V. Russo.

July 23, No. 88, pp. 923-938

127 Necessity for Development of Forensic Gynecology. (Il presente e l'avvenire della moderna ginecologia.) L. M. Bossi.

July 27, No. 90, pp. 947-954

128 Two Operative Cases of Wounds of the Diaphragm. G. Negroni.

July 30, No. 91, pp. 955-970

129 *Present Status of Pellagra Question. (Nuove vedute eziologiche e nuove critiche a proposito della pellagra.) E. Bertarelli.

125. **Treatment of Hemorrhoids.**—Baroni has found that mere forcible extensive dilatation of the anus has sometimes been sufficient to break up the vicious circle maintaining the hemorrhoids, and in any event is a powerful factor in the cure. When further measures are required, he seizes the tip of each hemorrhoid with forceps and pulls it out as long as possible, ligating it at the base, passing the needle through the base to prevent its slipping. There is no danger of tardy hemorrhage with this technic nor of stenosis as the mucosa is left intact between each nodule as they are thermocauterized.

129. **Pellagra.**—Bertarelli reviews the various theories in regard to the origin of pellagra to date. While he thinks that there is no positive evidence to explain its origin, yet the probabilities are in favor of its being an infectious disease due to a protozoon or some microorganism of similar biologic characteristics, the corn theory not having stood the test of time. The principal argument against the corn theory is that the rigorous measures in regard to the corn harvest and corn as a foodstuff, introduced in prophylaxis of pellagra by the Italian government, have given such mediocre results. The number of cases of pellagra have diminished but by no means in proportion to the extent of these measures and the strictness of their enforcement.

Riforma Medica, Naples

July 17, XXVII, No. 29, pp. 785-812

130 Congenital Median Fistula in the Neck. F. Putzu.

July 24, No. 30, pp. 813-840

131 Blood Findings in Case of Hemorrhagic Purpura. (Ricerche ematologiche in un caso di malattia di Werlhof.) S. Maggiore.

132 Pathologic Anatomy in Case of Diabetes Without Lesions in the Pancreas. E. Cedrangolo. Commenced in No. 29.

July 31, No. 31, pp. 841-868

133 Manometer Findings with Induced Pneumothorax. A. Fagiuoli.

134 Pain of Central Origin. G. Mattirolo.

135 Chronic Hemolytic Acholuric Jaundice with Splenomegaly. G. Cantoni and C. Milani. Commenced in No. 28.

Hospitalstidende, Copenhagen

June 28, LIV, No. 26, pp. 705-736

136 Traumatic Ossifying Myositis. K. Poulsen. Commenced in No. 25.

July 12, No. 28, pp. 761-792

137 Negative Wassermann Reaction in Three Cases of Untreated Tertiary Syphilids. A. Reyn.

138 Lesion in Side of the Cervical Spinal Cord. (Tilfælde af begrænset Sideløsion af Halsmarven.) A. Wimmer. Commenced in No. 27.

July 19, No. 29, pp. 793-824

139 Experiences with Gastroptosis and Principles for Gastropexy: Seven Cases. L. Kraft.

Ugeskrift for Læger, Copenhagen

July 20, LXXIII, No. 29, pp. 1063-1100

140 Disease of the Ears in Relation to Life and Accident Insurance. (Øresygdommenes Betydning for Livs- og Ulykkesforsikring.) H. Mygind.

July 27, No. 30, pp. 1101-1138

141 Boarding Out the Insane in Families. (Om Familieforplejning af Sindssyge.) F. Hallager.

August 3, No. 31, pp. 1139-1170

142 Phenolphthalein as Laxative. (Nogle Bemærkninger om Phenolphthalein som Afføringsmiddel.) A. Borgbjærg.

143 Institutional Principles in Care of the Insane. (Plejeanstaltsprincipet i Sindssygebehandling.) F. Krarup.

August 10, No. 32, pp. 1171-1202

144 Gastric Ulcers in the Tuberculous. (Ulcerationer i Ventriklen hos Tuberkulose.) L. Melchior.

August 17, No. 33, pp. 1203-1238

145 Case of Alcaptonuria with Ochronosis. V. Poulsen.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

A SYSTEM OF MEDICINE. By Many Writers. Edited by Sir Clifford Allbutt, K.C.B., M.A., M.D., Regius Professor of Physic in the University of Cambridge and Humphry Davy Rolleston, M.A., M.D., F.R.C.P., Senior Physician, St. George's Hospital, Cambridge. Volume IX. Diseases of the Skin With General Index. Cloth. Price, 36 net. Pp. 869, with 170 illustrations. New York: Macmillan & Co., 1911.

ELEMENTS OF PHYSIOLOGICAL PSYCHOLOGY. A Treatise of the Activities and Nature of the Mind From the Physical and Experimental Points of View. By George Trumbull Ladd, LL.D., Emeritus Professor of Moral Philosophy and Metaphysics in Yale University, and Robert Sessions Woodworth, Ph.D., Professor of Psychology in Columbia University. Cloth. Price, $4 net. Pp. 704, with 153 illustrations. New York: Charles Scribner's Sons, 1911.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Volume XXIII. Twenty-Third Session Held at Nashville, Tenn., December 13, 14 and 15, 1910. Edited by W. D. Haggard, M.D., Nashville, Tenn. Cloth. Pp. 532, with illustrations. 1911.

THE COMING OF EVOLUTION. The Story of a Great Revolution in Science. By John W. Judd, C.B., LL.D., F.R.S., Formerly Professor of Geology and Dean of the Royal College of Science. Cloth. Price, 40 cents net. Pp. 171. New York: G. P. Putnam's Sons, 1911.

HEREDITY IN THE LIGHT OF RECENT RESEARCH. By L. Doncaster, M.A., Fellow of King's College. Cloth. Price, 40 cents net. Pp. 143, with 12 illustrations. New York: G. P. Putnam's Sons, 1911.

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